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The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Overview for Request: cder_mpl1r_wp168

Request ID: cder_mpl1r_wp168_nsdp_v02

Request Description: We identified new users of inhaled corticosteroid (ICS)/long-acting beta agonist (LABA) inhalers separately among insurance plan members with a history of asthma or of chronic obstructive pulmonary disease (COPD) in the Sentinel Distributed Database (SDD). Among these patients, we described baseline health characteristics and the length of database enrollment following new use.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 9.3.0

Data Source: We distributed this request to 16 Sentinel Data Partners on April 3, 2020. The study period included data from May 10, 2013 through September 30, 2019. Please see Appendix A for a list of dates of available data for each Data Partner.

Study Design: We identified new users of ICS/LABA inhalers among members who were 4 years of age and older who had a history of either asthma or COPD. We tabulated the number of new users overall and further stratified the number of new users by year and month. We additionally described the duration of insurance plan enrollment for members in each cohort following new use. This is a Type 1 analysis in the Query Request Package (QRP) documentation.

Exposures of Interest: We identified six brand name ICS/LABA inhaled medications as our exposures of interest: Advair Diskus (fluticasone propionate/salmeterol xinafoate), Advair HFA (fluticasone propionate/salmeterol xinafoate), Symbicort (budesonide/formoterol fumarate), Dulera (mometasone furoate/formoterol fumarate), Breo Ellipta (fluticasone furoate/vilanterol trifenate), and Airduo RespiClick (fluticasone propionate/salmeterol xinafoate). We grouped new users of each inhaled medication into separate cohorts. For each cohort, we included only the first qualifying (index) dispensing for each member; cohort re-entry was not allowed. We further defined new use by excluding any members who had evidence of a dispensing for their index-defining inhaled medication in the 365 days prior to index. We defined exposure to each inhaled medication using outpatient dispensing data and National Drug Codes (NDCs). Please see Appendix B for a list of generic and brand names of medical products.

Cohort Eligibility Criteria: We required members to be enrolled in health plans with medical and drug coverage in the 365 days prior to their index date; gaps in coverage of up to 45 days were allowed and treated as continuous enrollment. The following age groups were included in the cohort: 4-11, 12-18, 19-39, 40-64, and 65+ years.

Inclusion and Exclusion Criteria: We required members to have evidence of either an asthma or COPD diagnosis in the 365 days prior to and including their index dispensing date. In order to maintain mutually exclusive cohorts, for each cohort of members with a history of asthma, we excluded members with a history of COPD in the 365 days prior to and including index, and for each cohort of members with a history of COPD, we excluded members with a history of asthma in the 365 days prior to and including index. We defined asthma and COPD using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes. Please see Appendix C for a list of diagnosis codes used to define the inclusion and exclusion criteria in this request.

Overview for Request: cder_mpl1r_wp168

Baseline Characteristics: We reported each member's sex, race, age at time of exposure, and year of exposure on their index date. We additionally assessed the following characteristics in the 365 days prior to and including the date of index ICD/LABA inhaled medication dispensing: Charlson/Elixhauser combined comorbidity score¹, respiratory failure, acute bronchospasm, asthma exacerbation in any care setting and separately in the inpatient, emergency department, and outpatient care settings, COPD exacerbation (overall, and in two subgroups of diagnosis codes) in any care setting and separately in the inpatient, emergency department, and outpatient care settings, short-acting beta agonist use, long-acting beta agonist use, short-acting antimuscarinic agent use, long-acting antimuscarinic agent use, leukotriene modifier use, immunomodulator use, and mast cell stabilizer use. Finally, we assessed the healthcare utilization intensity of the cohorts, including mean number of ambulatory, inpatient, emergency department, other ambulatory, and institutional stays, and mean number of generic drugs and unique drug classes dispensed. We defined the baseline characteristics using ICD-9-CM and ICD-10-CM diagnosis codes and NDCs. Please see Appendices D and E for a list of diagnosis codes and generic and brand names of medical products used to define the baseline characteristics.

Please see Appendices F-H for the specifications of parameters used in this analysis and a design diagram.

Limitations: Algorithms used to define exposures, inclusion and exclusion criteria, and baseline characteristics are imperfect; thus it is possible that there may be misclassification. Therefore, data should be interpreted with this limitation in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinelssystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse>).

¹Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759

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**Glossary of Terms for Analyses Using
Cohort Identification and Descriptive Analysis (CIDA) Module***

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.

Ambulatory Visit (AV) - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

Emergency Department (ED) - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

Inpatient Hospital Stay (IP) - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

Non-Acute Institutional Stay (IS) - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

Other Ambulatory Visit (OA) - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

Charlson/Elixhauser Combined Comorbidity Score - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

Episodes - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

Episode Gap - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

Event Deduplication - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

Lookback Period - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Member-Years - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Monitoring Period - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

Treatment Episode Truncation Indicator - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

Washout Period (drug/exposure) - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

Table 1a. Patient Characteristics for New Users of Advair Diskus with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	314,483		643,112	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	55.4	16.5	70.4	11.7
	Number	Percent	Number	Percent
Age (years)				
4-11	6,196	2.0%	261	0.0%
12-18	10,631	3.4%	698	0.1%
19-39	52,896	16.8%	9,475	1.5%
40-64	123,085	39.1%	170,882	26.6%
65+	121,675	38.7%	461,796	71.8%
Sex				
Female	212,792	67.7%	369,827	57.5%
Male	101,691	32.3%	273,285	42.5%
Race ¹				
Unknown	127,659	40.6%	87,486	13.6%
American Indian or Alaska Native	1,425	0.5%	3,331	0.5%
Asian	11,816	3.8%	8,983	1.4%
Black or African American	28,068	8.9%	52,697	8.2%
Native Hawaiian or Other Pacific Islander	1,341	0.4%	719	0.1%
White	144,174	45.8%	489,896	76.2%
Hispanic Origin ¹	14,137	4.5%	10,978	1.7%
Year				
2013	13,922	4.4%	103,523	16.1%
2014	20,238	6.4%	148,836	23.1%
2015	31,245	9.9%	136,713	21.3%
2016	68,328	21.7%	88,834	13.8%
2017	85,419	27.2%	81,788	12.7%
2018	71,721	22.8%	61,881	9.6%
2019	23,610	7.5%	21,537	3.3%
Recorded History of in the 365 Days Prior to Exposure	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	2	1.9	3.9	3.3
	Number	Percent	Number	Percent
Respiratory Failure	7,698	2.4%	120,638	18.8%
Acute Bronchospasm	8,025	2.6%	17,566	2.7%
Asthma Exacerbation - Any	122,871	39.1%	0	0.0%
Asthma Exacerbation - Inpatient	11,449	3.6%	0	0.0%
Asthma Exacerbation - Emergency	18,901	6.0%	0	0.0%
Asthma Exacerbation - Outpatient	112,359	35.7%	0	0.0%
COPD Exacerbation - Any	0	0.0%	242,956	37.8%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	61,459	9.6%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	227,202	35.3%
COPD Exacerbation - Inpatient	0	0.0%	130,933	20.4%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	39,316	6.1%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	123,325	19.2%

Table 1a. Patient Characteristics for New Users of Advair Diskus with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	43,779	6.8%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	7,424	1.2%
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	39,266	6.1%
COPD Exacerbation - Outpatient	0	0.0%	168,674	26.2%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	23,547	3.7%
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	156,632	24.4%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	229,286	72.9%	374,670	58.3%
Long-Acting Beta Agonists	333	0.1%	2,829	0.4%
Short-Acting Antimuscarinic Agents	9,176	2.9%	26,149	4.1%
Long-Acting Antimuscarinic Agents	7,696	2.4%	178,820	27.8%
Leukotriene Modifiers	96,439	30.7%	74,084	11.5%
Immunomodulators	532	0.2%	63	0.0%
Mast Cell Stabilizers	766	0.2%	575	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	19	20	25.5	25.6
Mean number of emergency room encounters	0.7	1.8	1	2.2
Mean number of inpatient hospital encounters	0.2	0.6	0.8	1.3
Mean number of non-acute institutional encounters	0.1	0.4	0.3	1
Mean number of other ambulatory encounters	5.2	9.7	12.5	21.4
Mean number of unique drug classes	10.6	5.4	13.7	6
Mean number of generics	11.7	6.4	15.3	7.2

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

Table 1b. Patient Characteristics for New Users of Advair HFA with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	67,391		92,181	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	47.1	19.4	70.3	12
	Number	Percent	Number	Percent
Age (years)				
4-11	9,143	13.6%	221	0.2%
12-18	5,819	8.6%	231	0.3%
19-39	9,957	14.8%	1,287	1.4%
40-64	20,785	30.8%	24,163	26.2%
65+	21,687	32.2%	66,279	71.9%
Sex				
Female	43,482	64.5%	53,993	58.6%
Male	23,909	35.5%	38,188	41.4%
Race ¹				
Unknown	33,453	49.6%	12,444	13.5%
American Indian or Alaska Native	231	0.3%	379	0.4%
Asian	1,867	2.8%	1,058	1.1%
Black or African American	4,998	7.4%	7,063	7.7%
Native Hawaiian or Other Pacific Islander	139	0.2%	97	0.1%
White	26,703	39.6%	71,140	77.2%
Hispanic Origin ¹	2,338	3.5%	1,324	1.4%
Year				
2013	2,557	3.8%	11,610	12.6%
2014	4,331	6.4%	17,738	19.2%
2015	6,973	10.3%	19,148	20.8%
2016	13,680	20.3%	13,030	14.1%
2017	14,351	21.3%	12,378	13.4%
2018	16,814	24.9%	12,103	13.1%
2019	8,685	12.9%	6,174	6.7%
Recorded History of in the 365 Days Prior to Exposure:	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	1.8	1.8	4.1	3.3
	Number	Percent	Number	Percent
Respiratory Failure	1,901	2.8%	22,133	24.0%
Acute Bronchospasm	2,099	3.1%	2,641	2.9%
Asthma Exacerbation - Any	31,558	46.8%	0	0.0%
Asthma Exacerbation - Inpatient	3,135	4.7%	0	0.0%
Asthma Exacerbation - Emergency	5,491	8.1%	0	0.0%
Asthma Exacerbation - Outpatient	29,312	43.5%	0	0.0%
COPD Exacerbation - Any	0	0.0%	39,599	43.0%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	11,142	12.1%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	37,257	40.4%
COPD Exacerbation - Inpatient	0	0.0%	22,809	24.7%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	7,602	8.2%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	21,573	23.4%

Table 1b. Patient Characteristics for New Users of Advair HFA with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure:	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	7,614	8.3%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	1,222	1.3%
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	6,925	7.5%
COPD Exacerbation - Outpatient	0	0.0%	27,724	30.1%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	4,007	4.3%
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	25,926	28.1%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	53,154	78.9%	58,348	63.3%
Long-Acting Beta Agonists	110	0.2%	499	0.5%
Short-Acting Antimuscarinic Agents	2,981	4.4%	4,859	5.3%
Long-Acting Antimuscarinic Agents	2,418	3.6%	29,158	31.6%
Leukotriene Modifiers	27,601	41.0%	12,254	13.3%
Immunomodulators	296	0.4%	11	0.0%
Mast Cell Stabilizers	206	0.3%	87	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	20.3	20.4	26.6	25.7
Mean number of emergency room encounters	0.7	1.7	1.1	2.1
Mean number of inpatient hospital encounters	0.2	0.6	0.9	1.4
Mean number of non-acute institutional encounters	0	0.4	0.3	1.2
Mean number of other ambulatory encounters	4.4	9.5	13.6	22.7
Mean number of unique drug classes	10.5	5.4	14.1	6.1
Mean number of generics	11.7	6.3	15.9	7.4

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

Table 1c. Patient Characteristics for New Users of Breo Ellipta with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	185,604		369,649	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	59.4	14.4	71.7	10.6
	Number	Percent	Number	Percent
Age (years)				
4-11	386	0.2%	*****	0.0%
12-18	3,252	1.8%	*****	0.0%
19-39	26,268	14.2%	2,561	0.7%
40-64	67,431	36.3%	85,794	23.2%
65+	88,267	47.6%	281,234	76.1%
Sex				
Female	125,281	67.5%	205,442	55.6%
Male	60,323	32.5%	164,207	44.4%
Race ¹				
Unknown	77,941	42.0%	45,030	12.2%
American Indian or Alaska Native	392	0.2%	1,110	0.3%
Asian	3,506	1.9%	4,343	1.2%
Black or African American	13,545	7.3%	24,262	6.6%
Native Hawaiian or Other Pacific Islander	157	0.1%	225	0.1%
White	90,063	48.5%	294,679	79.7%
Hispanic Origin ¹	4,045	2.2%	4,577	1.2%
Year				
2013	11	0.0%	289	0.1%
2014	719	0.4%	23,810	6.4%
2015	6,848	3.7%	49,861	13.5%
2016	35,615	19.2%	71,155	19.2%
2017	57,530	31.0%	102,474	27.7%
2018	57,043	30.7%	84,122	22.8%
2019	27,838	15.0%	37,938	10.3%
Recorded History of in the 365 Days Prior to Exposure:	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	2.2	2.1	4.3	3.4
	Number	Percent	Number	Percent
Respiratory Failure	5,301	2.9%	84,101	22.8%
Acute Bronchospasm	6,110	3.3%	10,429	2.8%
Asthma Exacerbation - Any	62,445	33.6%	0	0.0%
Asthma Exacerbation - Inpatient	4,881	2.6%	0	0.0%
Asthma Exacerbation - Emergency	6,645	3.6%	0	0.0%
Asthma Exacerbation - Outpatient	59,492	32.1%	0	0.0%
COPD Exacerbation - Any	0	0.0%	157,339	42.6%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	51,049	13.8%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	146,345	39.6%
COPD Exacerbation - Inpatient	0	0.0%	78,996	21.4%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	34,498	9.3%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	73,492	19.9%

Table 1c. Patient Characteristics for New Users of Breo Ellipta with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure:	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	27,352	7.4%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	4,500	1.2%
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	25,157	6.8%
COPD Exacerbation - Outpatient	0	0.0%	122,594	33.2%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	19,756	5.3%
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	113,785	30.8%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	129,209	69.6%	216,347	58.5%
Long-Acting Beta Agonists	414	0.2%	2,350	0.6%
Short-Acting Antimuscarinic Agents	6,822	3.7%	14,800	4.0%
Long-Acting Antimuscarinic Agents	8,177	4.4%	119,154	32.2%
Leukotriene Modifiers	71,826	38.7%	48,406	13.1%
Immunomodulators	823	0.4%	27	0.0%
Mast Cell Stabilizers	416	0.2%	352	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	23.9	22.2	26.9	25.3
Mean number of emergency room encounters	0.6	1.5	0.9	1.9
Mean number of inpatient hospital encounters	0.2	0.6	0.7	1.3
Mean number of non-acute institutional encounters	0.1	0.5	0.4	1.1
Mean number of other ambulatory encounters	4.7	9.6	13.2	23.3
Mean number of unique drug classes	11.8	5.7	14	6
Mean number of generics	13.2	6.7	15.9	7.3

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 1d. Patient Characteristics for New Users of Symbicort with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	304,892		751,633	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	54.5	16.3	69.5	11.4
	Number	Percent	Number	Percent
Age (years)				
4-11	10,124	3.3%	222	0.0%
12-18	12,449	4.1%	564	0.1%
19-39	49,231	16.1%	10,630	1.4%
40-64	115,157	37.8%	218,575	29.1%
65+	117,931	38.7%	521,642	69.4%
Sex				
Female	204,300	67.0%	417,905	55.6%
Male	100,592	33.0%	333,728	44.4%
Race ¹				
Unknown	144,428	47.4%	99,341	13.2%
American Indian or Alaska Native	747	0.2%	2,910	0.4%
Asian	6,415	2.1%	10,118	1.3%
Black or African American	25,577	8.4%	61,971	8.2%
Native Hawaiian or Other Pacific Islander	260	0.1%	563	0.1%
White	127,465	41.8%	576,730	76.7%
Hispanic Origin ¹	8,143	2.7%	12,433	1.7%
Year				
2013	9,283	3.0%	74,756	9.9%
2014	21,393	7.0%	170,364	22.7%
2015	26,850	8.8%	153,495	20.4%
2016	67,729	22.2%	115,081	15.3%
2017	67,556	22.2%	90,656	12.1%
2018	74,995	24.6%	96,620	12.9%
2019	37,086	12.2%	50,661	6.7%
Recorded History of in the 365 Days Prior to Exposure:	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	2	1.9	3.8	3.2
	Number	Percent	Number	Percent
Respiratory Failure	7,965	2.6%	139,845	18.6%
Acute Bronchospasm	9,503	3.1%	20,226	2.7%
Asthma Exacerbation - Any	128,095	42.0%	0	0.0%
Asthma Exacerbation - Inpatient	11,557	3.8%	0	0.0%
Asthma Exacerbation - Emergency	16,998	5.6%	0	0.0%
Asthma Exacerbation - Outpatient	119,853	39.3%	0	0.0%
COPD Exacerbation - Any	0	0.0%	290,998	38.7%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	78,203	10.4%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	271,364	36.1%
COPD Exacerbation - Inpatient	0	0.0%	147,393	19.6%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	49,093	6.5%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	138,552	18.4%

Table 1d. Patient Characteristics for New Users of Symbicort with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure:	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	52,977	7.0%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	9,251	1.2%
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	47,685	6.3%
COPD Exacerbation - Outpatient	0	0.0%	213,379	28.4%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	31,326	4.2%
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	197,843	26.3%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	219,308	71.9%	451,438	60.1%
Long-Acting Beta Agonists	716	0.2%	4,351	0.6%
Short-Acting Antimuscarinic Agents	9,613	3.2%	29,370	3.9%
Long-Acting Antimuscarinic Agents	9,127	3.0%	207,538	27.6%
Leukotriene Modifiers	109,702	36.0%	94,493	12.6%
Immunomodulators	923	0.3%	83	0.0%
Mast Cell Stabilizers	786	0.3%	791	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	21.7	21.4	25.9	25.6
Mean number of emergency room encounters	0.7	1.9	1	2.1
Mean number of inpatient hospital encounters	0.2	0.6	0.7	1.3
Mean number of non-acute institutional encounters	0.1	0.4	0.3	1
Mean number of other ambulatory encounters	4.1	8.8	11	20.1
Mean number of unique drug classes	11.3	5.6	13.8	6.1
Mean number of generics	12.5	6.6	15.6	7.3

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

Table 1e. Patient Characteristics for New Users of Dulera with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	110,720		134,330	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	49.7	17.8	68.3	12.1
	Number	Percent	Number	Percent
Age (years)				
4-11	5,045	4.6%	139	0.1%
12-18	7,482	6.8%	382	0.3%
19-39	20,956	18.9%	3,091	2.3%
40-64	46,823	42.3%	41,834	31.1%
65+	30,414	27.5%	88,884	66.2%
Sex				
Female	73,100	66.0%	76,151	56.7%
Male	37,620	34.0%	58,179	43.3%
Race ¹				
Unknown	51,026	46.1%	25,208	18.8%
American Indian or Alaska Native	1,066	1.0%	2,447	1.8%
Asian	5,738	5.2%	2,842	2.1%
Black or African American	8,095	7.3%	9,238	6.9%
Native Hawaiian or Other Pacific Islander	824	0.7%	404	0.3%
White	43,971	39.7%	94,191	70.1%
Hispanic Origin ¹	6,885	6.2%	3,061	2.3%
Year				
2013	6,512	5.9%	21,404	15.9%
2014	13,860	12.5%	43,175	32.1%
2015	17,888	16.2%	33,021	24.6%
2016	33,343	30.1%	18,781	14.0%
2017	24,742	22.3%	9,453	7.0%
2018	9,986	9.0%	5,635	4.2%
2019	4,389	4.0%	2,861	2.1%
Recorded History of in the 365 Days Prior to Exposure:	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	1.7	1.6	3.3	3
	Number	Percent	Number	Percent
Respiratory Failure	2,408	2.2%	23,228	17.3%
Acute Bronchospasm	3,042	2.7%	4,161	3.1%
Asthma Exacerbation - Any	52,963	47.8%	0	0.0%
Asthma Exacerbation - Inpatient	3,673	3.3%	0	0.0%
Asthma Exacerbation - Emergency	8,108	7.3%	0	0.0%
Asthma Exacerbation - Outpatient	48,922	44.2%	0	0.0%
COPD Exacerbation - Any	0	0.0%	44,493	33.1%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	10,264	7.6%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	41,644	31.0%
COPD Exacerbation - Inpatient	0	0.0%	20,849	15.5%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	5,998	4.5%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	19,693	14.7%

Table 1e. Patient Characteristics for New Users of Dulera with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure:	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	8,485	6.3%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	1,425	1.1%
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	7,543	5.6%
COPD Exacerbation - Outpatient	0	0.0%	32,543	24.2%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	4,354	3.2%
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	30,272	22.5%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	86,459	78.1%	86,040	64.1%
Long-Acting Beta Agonists	367	0.3%	952	0.7%
Short-Acting Antimuscarinic Agents	5,114	4.6%	8,662	6.4%
Long-Acting Antimuscarinic Agents	3,893	3.5%	42,510	31.6%
Leukotriene Modifiers	41,987	37.9%	20,066	14.9%
Immunomodulators	563	0.5%	41	0.0%
Mast Cell Stabilizers	383	0.3%	164	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	17.8	17.9	23.7	22.8
Mean number of emergency room encounters	0.6	1.5	0.9	2
Mean number of inpatient hospital encounters	0.1	0.5	0.6	1.2
Mean number of non-acute institutional encounters	0	0.4	0.2	0.8
Mean number of other ambulatory encounters	5	8.3	10.6	17.2
Mean number of unique drug classes	10.5	5.4	13.6	6
Mean number of generics	11.6	6.3	15.3	7.2

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

Table 1f. Patient Characteristics for New Users of Airduo RespiClick with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Characteristic	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
Number of unique patients	228		153	
Demographics	Mean	Standard Deviation	Mean	Standard Deviation
Mean Age	51.6	18	73.2	10.9
	Number	Percent	Number	Percent
Age (years)				
4-11	*****	*****	*****	*****
12-18	*****	*****	0	0.0%
19-39	27	11.8%	*****	*****
40-64	94	41.2%	*****	*****
65+	75	32.9%	124	81.0%
Sex				
Female	134	58.8%	81	52.9%
Male	94	41.2%	72	47.1%
Race ¹				
Unknown	125	54.8%	*****	*****
American Indian or Alaska Native	0	0.0%	*****	*****
Asian	*****	*****	0	0.0%
Black or African American	*****	*****	*****	*****
Native Hawaiian or Other Pacific Islander	0	0.0%	0	0.0%
White	91	39.9%	113	73.9%
Hispanic Origin ¹	*****	*****	*****	*****
Year				
2013	0	0.0%	0	0.0%
2014	0	0.0%	0	0.0%
2015	0	0.0%	0	0.0%
2016	0	0.0%	0	0.0%
2017	102	44.7%	41	26.8%
2018	86	37.7%	72	47.1%
2019	40	17.5%	40	26.1%
Recorded History of in the 365 Days Prior to Exposure:	Mean	Standard Deviation	Mean	Standard Deviation
Charlson/Elixhauser Combined Comorbidity Score ²	2	2	5.5	4.1
	Number	Percent	Number	Percent
Respiratory Failure	*****	*****	60	39.2%
Acute Bronchospasm	*****	*****	*****	*****
Asthma Exacerbation - Any	63	27.6%	0	0.0%
Asthma Exacerbation - Inpatient	*****	*****	0	0.0%
Asthma Exacerbation - Emergency	*****	*****	0	0.0%
Asthma Exacerbation - Outpatient	61	26.8%	0	0.0%
COPD Exacerbation - Any	0	0.0%	82	53.6%
COPD Exacerbation (J44.0 or 491.22) - Any	0	0.0%	32	20.9%
COPD Exacerbation (J44.1 or 491.21) - Any	0	0.0%	76	49.7%
COPD Exacerbation - Inpatient	0	0.0%	50	32.7%
COPD Exacerbation (J44.0 or 491.22) - Inpatient	0	0.0%	30	19.6%
COPD Exacerbation (J44.1 or 491.21) - Inpatient	0	0.0%	45	29.4%

Table 1f. Patient Characteristics for New Users of Airduo RespiClick with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Recorded History of in the 365 Days Prior to Exposure:	History of Asthma		History of COPD	
	Number	Percent	Number	Percent
COPD Exacerbation - Emergency	0	0.0%	19	12.4%
COPD Exacerbation (J44.0 or 491.22) - Emergency	0	0.0%	*****	*****
COPD Exacerbation (J44.1 or 491.21) - Emergency	0	0.0%	*****	*****
COPD Exacerbation - Outpatient	0	0.0%	58	37.9%
COPD Exacerbation (J44.0 or 491.22) - Outpatient	0	0.0%	*****	*****
COPD Exacerbation (J44.1 or 491.21) - Outpatient	0	0.0%	54	35.3%
History of Use in the 365 Days Prior to Exposure:				
Short-Acting Beta Agonists	167	73.2%	101	66.0%
Long-Acting Beta Agonists	*****	*****	*****	*****
Short-Acting Antimuscarinic Agents	11	4.8%	*****	*****
Long-Acting Antimuscarinic Agents	19	8.3%	58	37.9%
Leukotriene Modifiers	109	47.8%	20	13.1%
Immunomodulators	*****	*****	0	0.0%
Mast Cell Stabilizers	*****	*****	0	0.0%
Health Service Utilization Intensity:	Mean	Standard Deviation	Mean	Standard Deviation
Mean number of ambulatory encounters	23.3	23.5	26	27.9
Mean number of emergency room encounters	0.6	1.3	1.1	1.5
Mean number of inpatient hospital encounters	0.1	0.4	1.1	1.7
Mean number of non-acute institutional encounters	0.1	0.5	0.6	1.2
Mean number of other ambulatory encounters	4.3	10.8	27.8	34.4
Mean number of unique drug classes	11	5.9	14.3	6
Mean number of generics	12.5	7.3	16.1	7

¹In the SDD, race information is not well populated and there are substantial proportions of "unknown" race and Hispanic indicator values. Specifically, two commercial Data Partners do not provide any race or ethnicity data.

²The Charlson/Elixhauser Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window of 365 days before the exposure episode start date (index date).

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 2. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, Overall

Exposure	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
Patients with a History of Asthma							
Advair Diskus	314,483	8,362,361	12,171,433	24,261,417	376.07	3,448,502,735	9,441,485.9
Advair HFA	67,391	8,718,287	2,469,630	965,062	77.30	3,787,721,284	10,370,215.7
Breo Ellipta	185,604	8,685,535	6,582,214	13,003,460	213.69	3,743,524,589	10,249,211.7
Symbicort	304,892	8,518,146	11,167,409	3,679,788	357.93	3,578,269,337	9,796,767.5
Dulera	110,720	8,691,624	4,118,233	1,747,985	127.39	3,717,513,964	10,177,998.5
Airduo RespiClick	228	8,759,861	8,076	271	0.26	3,846,356,353	10,530,749.8
Patients with a History of COPD							
Advair Diskus	643,112	17,037,920	23,750,280	47,250,538	377.46	8,327,149,089	22,798,491.7
Advair HFA	92,181	17,617,791	3,361,859	1,300,306	52.32	9,270,653,889	25,381,667.0
Breo Ellipta	369,649	17,588,937	13,171,896	25,554,757	210.16	9,128,540,691	24,992,582.3
Symbicort	751,633	17,277,925	27,733,366	9,023,209	435.03	8,535,112,712	23,367,865.1
Dulera	134,330	17,597,556	4,956,403	2,077,510	76.33	9,208,167,524	25,210,588.7
Airduo RespiClick	153	17,658,574	4,817	402	0.09	9,364,111,376	25,637,539.7

¹Eligible Members, Member-Days, and Member-Years are reflective of the number of patients that met all cohort entry criteria on at least one day during the query period

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
Patients with a History of Asthma							
Advair Diskus							
<i>2013</i>							
May	1,458	365,305	51,039	101,387	39.91	7,583,590	20,762.7
June	1,692	368,650	58,246	115,908	45.90	10,379,234	28,416.8
July	1,618	367,493	58,110	116,277	44.03	10,747,224	29,424.3
August	1,653	369,093	58,214	116,369	44.79	10,730,803	29,379.3
September	1,749	372,444	60,650	120,829	46.96	10,356,485	28,354.5
October	1,974	376,063	68,573	137,107	52.49	10,677,564	29,233.6
November	1,815	374,795	62,424	124,576	48.43	10,348,815	28,333.5
December	1,963	376,784	67,248	134,194	52.10	10,609,965	29,048.5
<i>2014</i>							
January	2,186	414,730	79,664	158,483	52.71	11,549,939	31,622.0
February	1,730	403,418	61,036	122,015	42.88	10,355,935	28,353.0
March	1,754	403,797	61,505	121,929	43.44	11,408,327	31,234.3
April	1,766	405,021	63,907	126,893	43.60	11,091,249	30,366.2
May	1,747	403,550	60,621	120,695	43.29	11,437,907	31,315.3
June	1,502	395,232	54,895	109,380	38.00	11,082,614	30,342.5
July	1,374	394,809	50,210	99,989	34.80	11,523,946	31,550.8
August	1,248	397,438	45,096	89,830	31.40	11,547,909	31,616.5
September	1,585	408,742	56,823	112,589	38.78	11,311,920	30,970.3
October	1,743	414,333	62,704	125,424	42.07	11,801,158	32,309.8
November	1,595	413,552	57,211	114,007	38.57	11,430,335	31,294.6
December	2,008	424,039	70,682	140,697	47.35	11,917,799	32,629.2
<i>2015</i>							
January	2,505	443,985	91,058	181,610	56.42	12,453,836	34,096.7
February	2,053	438,939	75,017	149,967	46.77	11,334,429	31,032.0
March	2,174	445,151	78,461	156,265	48.84	12,621,842	34,556.7
April	2,139	448,915	77,054	153,867	47.65	12,315,526	33,718.1
May	1,878	448,000	68,230	135,710	41.92	12,807,635	35,065.4
June	1,702	441,837	60,003	119,632	38.52	12,427,634	34,025.0
July	1,439	439,312	51,399	102,468	32.76	12,868,500	35,232.0
August	1,387	442,636	50,349	100,272	31.34	12,902,788	35,325.9
September	1,600	455,934	57,954	115,532	35.09	12,539,929	34,332.5
October	4,371	750,831	163,113	324,901	58.22	17,830,259	48,816.6
November	4,670	970,037	178,372	354,170	48.14	24,997,315	68,438.9
December	5,327	1,180,438	198,428	395,641	45.13	32,350,319	88,570.3

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2016</i>							
January	5,666	1,391,715	218,803	434,684	40.71	38,684,805	105,913.2
February	5,790	1,588,288	218,036	434,752	36.45	41,727,682	114,244.2
March	6,519	1,779,352	246,606	491,240	36.64	50,307,689	137,734.9
April	6,038	1,922,937	229,751	457,821	31.40	53,575,989	146,683.1
May	5,669	2,056,728	217,130	432,940	27.56	59,812,212	163,756.9
June	5,501	2,184,774	217,122	431,827	25.18	61,700,855	168,927.7
July	4,516	2,281,295	176,674	351,361	19.80	67,340,658	184,368.7
August	4,998	2,412,162	198,365	395,322	20.72	70,992,033	194,365.6
September	5,318	2,526,819	207,819	415,173	21.05	72,033,112	197,215.9
October	5,757	2,625,343	224,918	446,698	21.93	76,235,798	208,722.2
November	6,068	2,645,786	239,493	473,862	22.93	74,149,035	203,009.0
December	6,488	2,855,050	242,163	482,722	22.72	77,333,701	211,728.1
<i>2017</i>							
January	7,569	2,705,325	291,331	581,430	27.98	77,957,949	213,437.2
February	6,334	2,672,897	245,246	489,093	23.70	70,559,086	193,180.2
March	6,844	2,697,151	261,381	519,536	25.37	78,301,460	214,377.7
April	5,729	2,682,480	223,042	445,062	21.36	76,021,352	208,135.1
May	5,995	2,697,159	231,250	458,931	22.23	78,953,713	216,163.5
June	4,946	2,696,701	194,025	386,616	18.34	76,803,566	210,276.7
July	4,076	2,688,124	159,368	316,916	15.16	79,596,858	217,924.3
August	5,297	2,716,702	215,408	429,221	19.50	79,961,664	218,923.1
September	8,503	2,721,789	367,281	732,044	31.24	77,640,610	212,568.4
October	11,232	2,743,400	480,565	959,429	40.94	80,532,863	220,487.0
November	9,803	2,752,717	420,011	838,481	35.61	78,125,927	213,897.1
December	9,091	2,766,994	375,860	749,270	32.86	81,066,943	221,949.2
<i>2018</i>							
January	9,965	2,716,301	413,892	826,584	36.69	78,863,063	215,915.3
February	7,541	2,692,565	302,923	605,053	28.01	71,179,232	194,878.1
March	7,541	2,698,913	301,647	602,765	27.94	78,781,370	215,691.6
April	6,487	2,681,785	259,999	519,838	24.19	76,078,456	208,291.5
May	6,562	2,690,611	258,366	515,042	24.39	78,645,156	215,318.7
June	5,189	2,673,405	206,980	412,968	19.41	76,240,233	208,734.4
July	4,423	2,591,237	177,710	354,685	17.07	76,726,231	210,065.0
August	4,549	2,591,684	186,472	371,813	17.55	76,331,813	208,985.1
September	4,058	2,592,704	162,606	324,189	15.65	74,182,256	203,099.9
October	5,146	2,619,190	205,375	410,608	19.65	76,919,601	210,594.4
November	5,354	2,629,317	206,143	411,400	20.36	74,771,477	204,713.1
December	4,906	2,639,762	190,542	380,817	18.59	77,558,463	212,343.5

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
2019							
January	6,088	2,648,557	240,671	479,631	22.99	77,008,899	210,838.9
February	4,412	2,603,603	167,024	333,681	16.95	68,930,589	188,721.7
March	3,627	2,576,305	130,462	260,384	14.08	75,341,751	206,274.5
April	3,129	2,254,390	120,591	240,391	13.88	63,955,566	175,100.8
May	3,016	2,231,097	106,050	210,835	13.52	65,356,467	178,936.3
June	2,364	2,217,522	53,161	105,997	10.66	63,418,136	173,629.4
July	680	670,549	14,318	28,585	10.14	19,937,517	54,585.9
August	159	244,674	4,596	9,186	6.50	7,231,750	19,799.5
September	135	219,064	1,961	3,922	6.16	6,286,419	17,211.3
Advair HFA							
2013							
May	259	422,954	9,038	3,537	6.12	8,809,446	24,118.9
June	265	426,408	8,841	3,524	6.21	12,047,636	32,984.6
July	311	425,172	11,400	4,459	7.31	12,472,540	34,148.0
August	296	426,670	10,939	4,267	6.94	12,449,306	34,084.3
September	305	430,193	10,466	4,089	7.09	12,015,497	32,896.6
October	397	434,005	13,641	5,378	9.15	12,384,091	33,905.8
November	361	432,161	11,941	4,658	8.35	11,987,188	32,819.1
December	363	434,090	11,948	4,760	8.36	12,284,106	33,632.0
2014							
January	385	477,913	13,590	5,392	8.06	13,361,005	36,580.4
February	333	464,226	11,769	4,620	7.17	11,962,595	32,751.8
March	360	463,780	12,437	4,898	7.76	13,156,457	36,020.4
April	374	464,304	12,928	5,054	8.06	12,763,233	34,943.8
May	330	461,634	11,169	4,458	7.15	13,146,764	35,993.9
June	300	452,381	10,607	4,133	6.63	12,720,568	34,827.0
July	323	451,553	11,335	4,459	7.15	13,209,384	36,165.3
August	291	453,493	10,972	4,349	6.42	13,214,279	36,178.7
September	404	464,522	14,318	5,607	8.70	12,905,276	35,332.7
October	391	469,692	13,314	5,215	8.32	13,431,031	36,772.2
November	390	467,919	13,088	5,159	8.33	12,984,258	35,549.0
December	450	478,387	14,969	5,882	9.41	13,502,412	36,967.6

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2015</i>							
January	508	499,237	18,442	7,253	10.18	14,056,912	38,485.7
February	504	493,336	17,789	7,002	10.22	12,783,433	34,999.1
March	518	499,985	18,692	7,369	10.36	14,224,184	38,943.7
April	559	503,866	19,578	7,717	11.09	13,870,990	37,976.7
May	458	502,481	16,096	6,229	9.11	14,411,840	39,457.5
June	413	496,047	14,942	5,873	8.33	13,980,704	38,277.1
July	371	493,173	13,549	5,277	7.52	14,472,362	39,623.2
August	368	496,523	13,277	5,073	7.41	14,506,579	39,716.8
September	381	510,873	13,300	5,236	7.46	14,102,651	38,611.0
October	935	840,632	33,313	13,039	11.12	20,054,804	54,907.1
November	909	1,084,104	33,156	12,921	8.38	28,067,167	76,843.7
December	1,049	1,315,686	38,229	14,898	7.97	36,225,745	99,180.7
<i>2016</i>							
January	1,053	1,544,934	39,038	15,107	6.82	43,140,785	118,113.0
February	1,153	1,756,347	42,584	16,630	6.56	46,341,389	126,875.8
March	1,221	1,961,646	44,161	17,140	6.22	55,679,948	152,443.4
April	1,201	2,114,986	44,814	17,517	5.68	59,130,512	161,890.5
May	1,152	2,257,683	42,728	16,666	5.10	65,848,643	180,283.8
June	1,084	2,394,182	41,032	15,938	4.53	67,785,812	185,587.4
July	940	2,495,667	35,506	13,822	3.77	73,838,559	202,159.0
August	1,077	2,632,592	40,714	15,718	4.09	77,671,649	212,653.4
September	1,097	2,752,308	40,289	15,756	3.99	78,646,133	215,321.4
October	1,135	2,855,137	41,810	16,099	3.98	83,141,333	227,628.6
November	1,285	2,875,455	46,816	18,298	4.47	80,821,234	221,276.5
December	1,282	3,098,407	44,848	17,533	4.14	84,237,544	230,629.8
<i>2017</i>							
January	1,501	2,933,986	55,865	21,739	5.12	84,807,216	232,189.5
February	1,370	2,899,867	50,267	19,723	4.72	76,753,997	210,141.0
March	1,464	2,925,208	53,898	21,156	5.00	85,175,693	233,198.3
April	1,198	2,909,760	44,776	17,423	4.12	82,670,900	226,340.6
May	1,287	2,924,486	48,913	18,980	4.40	85,837,908	235,011.4
June	1,060	2,924,505	38,486	15,035	3.62	83,476,102	228,545.1
July	912	2,915,321	34,234	13,357	3.13	86,486,627	236,787.5
August	985	2,944,333	35,453	13,835	3.35	86,862,784	237,817.3
September	1,071	2,950,189	39,856	15,469	3.63	84,379,905	231,019.6
October	1,116	2,976,174	41,197	16,164	3.75	87,662,104	240,005.8
November	1,155	2,991,281	41,697	16,286	3.86	85,180,811	233,212.4
December	1,232	3,010,015	45,433	17,811	4.09	88,475,551	242,232.9

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2018</i>							
January	1,510	2,959,955	58,072	22,624	5.10	86,244,913	236,125.7
February	1,484	2,938,297	57,939	22,741	5.05	77,904,894	213,292.0
March	1,606	2,946,906	62,471	24,433	5.45	86,284,905	236,235.2
April	1,502	2,930,553	58,978	23,179	5.13	83,361,048	228,230.1
May	1,500	2,939,617	58,008	22,591	5.10	86,186,065	235,964.6
June	1,366	2,922,978	52,647	20,670	4.67	83,559,752	228,774.1
July	1,150	2,838,234	43,709	17,044	4.05	84,226,123	230,598.6
August	1,264	2,836,358	48,742	19,178	4.46	83,743,587	229,277.4
September	1,185	2,836,914	45,664	17,578	4.18	81,348,426	222,719.9
October	1,438	2,863,353	54,946	21,469	5.02	84,305,473	230,815.8
November	1,420	2,872,898	53,946	21,179	4.94	81,908,024	224,251.9
December	1,389	2,882,615	51,759	20,218	4.82	84,912,840	232,478.7
<i>2019</i>							
January	1,610	2,887,583	61,090	23,935	5.58	84,191,172	230,502.9
February	1,434	2,838,844	53,924	21,179	5.05	75,340,351	206,270.6
March	1,499	2,805,367	54,220	21,052	5.34	82,223,196	225,114.8
April	1,281	2,459,915	48,492	18,853	5.21	69,934,563	191,470.4
May	1,326	2,430,978	46,323	18,205	5.45	71,370,887	195,402.8
June	958	2,414,878	22,679	8,980	3.97	69,188,425	189,427.6
July	408	723,251	8,529	3,392	5.64	21,539,655	58,972.4
August	105	259,276	3,115	1,226	4.05	7,674,412	21,011.4
September	64	231,566	889	347	2.76	6,654,991	18,220.4
Breo Ellipta							
<i>2013</i>							
May	0	430,971	0	0	0.00	8,982,971	24,594.0
June	0	434,514	0	0	0.00	12,285,717	33,636.5
July	0	433,203	0	0	0.00	12,718,486	34,821.3
August	0	434,743	0	0	0.00	12,694,699	34,756.2
September	0	438,213	0	0	0.00	12,250,980	33,541.4
October	0	441,957	0	0	0.00	12,623,965	34,562.5
November	*****	*****	88	148	0.07	12,218,691	33,453.0
December	*****	*****	356	684	0.18	12,519,507	34,276.5

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2014</i>							
January	*****	*****	678	1,356	0.39	13,617,585	37,282.9
February	23	472,615	860	1,428	0.49	12,188,952	33,371.5
March	32	472,100	1,134	2,032	0.68	13,404,997	36,700.9
April	50	472,620	1,897	3,498	1.06	13,003,347	35,601.2
May	52	469,922	2,172	4,016	1.11	13,394,162	36,671.2
June	75	460,503	2,848	5,164	1.63	12,957,260	35,475.0
July	61	459,615	2,578	4,796	1.33	13,453,761	36,834.4
August	65	461,542	2,364	4,460	1.41	13,456,907	36,843.0
September	86	472,626	3,418	6,432	1.82	13,141,594	35,979.7
October	95	477,857	3,527	6,822	1.99	13,675,286	37,440.9
November	68	475,992	2,520	4,680	1.43	13,218,595	36,190.5
December	93	486,472	3,390	6,250	1.91	13,744,695	37,630.9
<i>2015</i>							
January	105	507,510	3,838	7,348	2.07	14,304,796	39,164.4
February	120	501,611	4,220	7,904	2.39	13,009,646	35,618.5
March	163	508,360	5,914	11,320	3.21	14,474,649	39,629.4
April	168	512,339	5,995	11,426	3.28	14,116,170	38,648.0
May	210	511,027	8,128	15,392	4.11	14,668,307	40,159.6
June	272	504,498	9,775	18,048	5.39	14,227,704	38,953.3
July	321	501,476	11,424	21,464	6.40	14,722,740	40,308.7
August	393	504,709	13,623	26,314	7.79	14,750,667	40,385.1
September	441	518,927	15,679	30,081	8.50	14,330,545	39,234.9
October	1,181	851,362	41,643	81,003	13.87	20,329,276	55,658.5
November	1,497	1,096,188	53,130	103,269	13.66	28,387,607	77,721.0
December	1,977	1,328,377	66,781	131,501	14.88	36,578,203	100,145.7
<i>2016</i>							
January	2,328	1,557,304	82,176	161,179	14.95	43,487,573	119,062.5
February	2,520	1,768,021	90,615	176,506	14.25	46,645,450	127,708.3
March	2,886	1,972,261	101,971	199,022	14.63	55,971,289	153,241.0
April	2,790	2,123,790	98,790	193,197	13.14	59,367,887	162,540.4
May	2,843	2,264,596	100,668	197,625	12.55	66,039,794	180,807.1
June	2,716	2,399,172	99,603	196,140	11.32	67,915,965	185,943.8
July	2,587	2,498,782	90,760	178,464	10.35	73,917,943	202,376.3
August	3,018	2,633,969	107,016	210,747	11.46	77,692,752	212,711.2
September	3,152	2,751,318	110,143	218,137	11.46	78,603,735	215,205.3
October	3,315	2,851,572	116,415	229,739	11.63	83,013,042	227,277.3
November	3,555	2,869,225	124,286	244,990	12.39	80,617,903	220,719.8
December	3,905	3,088,085	134,931	265,705	12.65	83,936,616	229,805.9

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2017</i>							
January	5,142	2,921,950	188,701	372,399	17.60	84,411,936	231,107.3
February	5,016	2,884,252	178,708	351,846	17.39	76,290,663	208,872.5
March	5,515	2,905,653	201,646	397,343	18.98	84,542,147	231,463.8
April	4,986	2,886,105	179,827	354,389	17.28	81,940,115	224,339.8
May	5,421	2,897,067	194,187	384,460	18.71	84,958,833	232,604.6
June	4,648	2,893,056	166,737	328,194	16.07	82,517,736	225,921.2
July	4,042	2,880,402	145,335	287,781	14.03	85,395,269	233,799.5
August	4,363	2,906,260	157,853	311,561	15.01	85,675,306	234,566.2
September	4,114	2,908,816	147,883	292,501	14.14	83,142,693	227,632.3
October	4,661	2,931,673	170,164	335,862	15.90	86,285,735	236,237.5
November	4,711	2,943,521	166,823	331,178	16.00	83,748,885	229,292.0
December	4,911	2,958,686	170,689	337,866	16.60	86,893,000	237,900.1
<i>2018</i>							
January	5,523	2,904,165	204,583	404,181	19.02	84,535,022	231,444.3
February	4,936	2,879,422	180,894	358,267	17.14	76,272,190	208,821.9
March	5,231	2,885,042	189,678	376,625	18.13	84,390,751	231,049.3
April	5,124	2,866,066	187,813	372,488	17.88	81,447,156	222,990.2
May	5,375	2,872,410	196,497	390,000	18.71	84,122,089	230,313.7
June	4,607	2,853,059	167,468	331,291	16.15	81,483,917	223,090.8
July	4,240	2,766,177	156,673	310,800	15.33	82,012,657	224,538.4
August	4,405	2,761,734	162,237	322,765	15.95	81,457,758	223,019.2
September	3,960	2,760,015	146,033	289,559	14.35	79,073,069	216,490.3
October	4,905	2,784,386	176,743	350,879	17.62	81,890,659	224,204.4
November	4,429	2,791,618	158,032	313,407	15.87	79,510,395	217,687.6
December	4,308	2,799,316	151,803	301,779	15.39	82,379,746	225,543.5
<i>2019</i>							
January	5,101	2,803,451	186,622	372,012	18.20	81,645,434	223,533.0
February	4,524	2,753,021	165,267	329,055	16.43	72,986,243	199,825.4
March	4,994	2,717,146	171,505	340,226	18.38	79,541,748	217,773.4
April	4,239	2,378,974	151,241	299,636	17.82	67,552,492	184,948.6
May	4,163	2,348,364	135,145	267,865	17.73	68,863,223	188,537.2
June	3,500	2,331,096	68,181	135,444	15.01	66,718,478	182,665.2
July	633	715,957	16,314	32,488	8.84	21,318,575	58,367.1
August	338	251,743	10,331	20,561	13.43	7,443,476	20,379.1
September	346	223,483	5,247	10,465	15.48	6,414,777	17,562.7

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
Symbicort							
<i>2013</i>							
May	981	403,464	34,222	11,310	24.31	8,390,780	22,972.7
June	1,139	406,500	38,712	12,753	28.02	11,467,730	31,396.9
July	1,118	404,924	38,188	12,631	27.61	11,863,319	32,480.0
August	1,027	406,257	35,096	11,604	25.28	11,834,704	32,401.7
September	1,059	409,445	36,244	11,907	25.86	11,416,042	31,255.4
October	1,300	412,772	43,962	14,588	31.49	11,754,906	32,183.2
November	1,276	410,745	43,657	14,347	31.07	11,369,999	31,129.4
December	1,383	412,443	46,734	15,376	33.53	11,643,435	31,878.0
<i>2014</i>							
January	2,143	453,785	79,103	25,852	47.23	12,649,974	34,633.7
February	1,909	439,756	68,263	22,533	43.41	11,302,320	30,944.1
March	2,142	438,572	79,181	26,013	48.84	12,405,991	33,965.8
April	2,181	438,290	78,857	25,792	49.76	12,008,295	32,876.9
May	2,062	434,908	73,652	24,165	47.41	12,341,919	33,790.3
June	1,641	424,882	58,811	19,353	38.62	11,920,844	32,637.5
July	1,371	423,559	50,487	16,516	32.37	12,367,694	33,860.9
August	1,268	425,148	46,903	15,199	29.82	12,362,504	33,846.7
September	1,517	435,573	53,413	17,559	34.83	12,069,331	33,044.0
October	1,733	440,153	62,236	20,440	39.37	12,551,853	34,365.1
November	1,587	438,120	56,269	18,362	36.22	12,124,633	33,195.4
December	1,839	447,798	63,225	20,722	41.07	12,603,677	34,507.0
<i>2015</i>							
January	1,959	467,037	69,561	22,779	41.95	13,114,330	35,905.1
February	1,712	461,059	62,414	20,546	37.13	11,921,777	32,640.0
March	1,998	467,354	73,180	23,873	42.75	13,261,108	36,306.9
April	2,042	471,097	74,061	24,404	43.35	12,932,945	35,408.5
May	1,741	469,836	60,713	19,988	37.06	13,442,062	36,802.4
June	1,509	463,674	55,779	17,943	32.54	13,044,227	35,713.1
July	1,354	460,674	48,518	15,861	29.39	13,503,157	36,969.6
August	1,228	463,885	44,908	14,813	26.47	13,530,830	37,045.4
September	1,412	477,762	50,401	16,548	29.55	13,153,417	36,012.1
October	3,556	789,310	128,628	42,167	45.05	18,751,873	51,339.8
November	3,900	1,020,439	141,194	46,198	38.22	26,323,125	72,068.8
December	4,439	1,241,783	163,097	53,560	35.75	34,068,081	93,273.3

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2016</i>							
January	4,736	1,462,374	178,533	58,618	32.39	40,708,438	111,453.6
February	5,090	1,666,073	188,748	61,947	30.55	43,835,761	120,015.8
March	5,681	1,863,930	209,699	68,902	30.48	52,767,907	144,470.7
April	5,109	2,011,371	191,667	62,836	25.40	56,115,578	153,636.1
May	6,233	2,149,126	227,777	74,932	29.00	62,550,680	171,254.4
June	5,836	2,279,441	218,174	71,158	25.60	64,419,355	176,370.6
July	5,124	2,376,763	188,807	62,440	21.56	70,206,202	192,214.1
August	5,814	2,508,889	216,585	71,565	23.17	73,893,643	202,309.8
September	5,771	2,623,776	214,611	71,157	22.00	74,854,611	204,940.8
October	5,917	2,721,618	220,998	72,638	21.74	79,113,305	216,600.4
November	6,073	2,739,776	224,568	73,954	22.17	76,863,555	210,440.9
December	6,345	2,952,781	228,522	75,564	21.49	80,078,374	219,242.6
<i>2017</i>							
January	6,639	2,794,896	247,827	81,750	23.75	80,630,655	220,754.7
February	6,131	2,760,599	227,385	74,953	22.21	72,929,372	199,669.7
March	6,939	2,783,549	257,787	84,928	24.93	80,873,223	221,418.8
April	5,864	2,765,640	220,120	72,644	21.20	78,432,978	214,737.8
May	6,056	2,778,707	224,242	74,196	21.79	81,398,794	222,857.8
June	5,315	2,776,819	201,728	66,381	19.14	79,122,911	216,626.7
July	4,415	2,766,611	166,595	56,102	15.96	81,954,420	224,379.0
August	4,803	2,794,301	180,423	59,532	17.19	82,294,681	225,310.6
September	4,686	2,798,916	175,130	57,553	16.74	79,930,591	218,838.0
October	5,299	2,823,483	197,698	64,859	18.77	83,027,417	227,316.7
November	5,554	2,837,649	204,760	67,566	19.57	80,653,854	220,818.2
December	5,855	2,855,572	210,497	69,434	20.50	83,766,922	229,341.3
<i>2018</i>							
January	8,482	2,807,707	319,972	105,898	30.21	81,598,871	223,405.5
February	7,224	2,783,035	273,740	90,336	25.96	73,632,994	201,596.2
March	7,319	2,788,831	277,484	91,437	26.24	81,472,134	223,058.5
April	6,667	2,770,489	247,644	82,037	24.06	78,650,550	215,333.5
May	6,802	2,777,181	252,440	83,664	24.49	81,243,538	222,432.7
June	5,787	2,758,494	216,885	71,337	20.98	78,714,669	215,509.0
July	4,926	2,679,822	188,791	62,152	18.38	79,398,110	217,380.2
August	5,159	2,675,763	197,759	65,090	19.28	78,863,408	215,916.2
September	4,788	2,674,733	186,346	61,209	17.90	76,576,587	209,655.3
October	6,005	2,699,277	229,720	75,634	22.25	79,323,388	217,175.6
November	5,924	2,706,666	220,153	72,737	21.89	77,029,971	210,896.6
December	5,912	2,714,737	219,562	72,292	21.78	79,813,985	218,518.8

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
2019							
January	6,655	2,720,212	252,284	83,360	24.47	79,139,923	216,673.3
February	5,909	2,670,673	222,109	73,564	22.13	70,736,549	193,666.1
March	6,639	2,635,237	236,251	78,153	25.19	77,063,758	210,989.1
April	5,679	2,307,846	213,324	69,981	24.61	65,468,229	179,242.2
May	5,565	2,277,297	187,460	62,082	24.44	66,709,904	182,641.8
June	4,613	2,260,055	91,589	30,370	20.41	64,635,521	176,962.4
July	908	702,738	25,508	8,434	12.92	20,914,794	57,261.6
August	547	243,535	17,470	5,888	22.46	7,190,909	19,687.6
September	571	215,323	8,368	2,821	26.52	6,171,436	16,896.5
Dulera							
2013							
May	669	415,583	23,167	9,914	16.10	8,649,629	23,681.4
June	769	418,840	27,008	11,258	18.36	11,822,371	32,367.9
July	774	417,294	26,565	11,403	18.55	12,231,478	33,488.0
August	729	418,560	25,764	10,964	17.42	12,201,054	33,404.7
September	800	421,737	27,465	11,567	18.97	11,766,676	32,215.4
October	890	425,197	30,562	12,943	20.93	12,117,225	33,175.2
November	876	423,146	29,780	12,557	20.70	11,722,420	32,094.2
December	1,005	424,883	34,260	14,566	23.65	12,004,390	32,866.2
2014							
January	1,340	467,754	48,514	20,515	28.65	13,058,199	35,751.4
February	1,237	453,772	44,136	18,588	27.26	11,675,437	31,965.6
March	1,317	452,905	47,643	20,201	29.08	12,824,919	35,112.7
April	1,282	452,870	45,602	19,343	28.31	12,426,402	34,021.6
May	1,239	449,732	44,389	18,632	27.55	12,783,908	35,000.4
June	1,052	440,012	39,952	16,709	23.91	12,355,309	33,827.0
July	1,017	438,779	37,931	15,919	23.18	12,816,970	35,091.0
August	869	440,405	32,162	13,447	19.73	12,813,748	35,082.1
September	1,062	451,123	38,501	16,279	23.54	12,513,351	34,259.7
October	1,147	455,933	41,876	17,664	25.16	13,015,450	35,634.4
November	1,039	453,768	37,978	16,037	22.90	12,571,228	34,418.1
December	1,259	463,666	43,936	18,548	27.15	13,063,783	35,766.7

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2015</i>							
January	1,323	483,373	46,867	19,962	27.37	13,594,365	37,219.3
February	1,238	477,447	44,556	18,756	25.93	12,356,320	33,829.8
March	1,334	483,787	47,293	20,016	27.57	13,743,245	37,627.0
April	1,348	487,427	49,128	20,713	27.66	13,397,091	36,679.2
May	1,164	485,919	40,805	17,191	23.95	13,917,800	38,104.9
June	994	479,541	36,037	15,242	20.73	13,500,676	36,962.8
July	857	476,749	31,101	12,936	17.98	13,975,934	38,264.0
August	856	480,089	32,586	13,748	17.83	14,008,651	38,353.6
September	922	494,162	32,777	13,707	18.66	13,617,023	37,281.4
October	2,410	816,121	87,416	36,791	29.53	19,407,720	53,135.4
November	2,500	1,053,943	91,267	38,718	23.72	27,228,519	74,547.6
December	2,942	1,280,420	107,468	45,741	22.98	35,188,464	96,340.8
<i>2016</i>							
January	2,738	1,503,590	101,600	43,305	18.21	41,933,306	114,807.1
February	3,179	1,710,293	116,263	49,942	18.59	45,064,390	123,379.6
March	3,415	1,911,195	124,865	53,360	17.87	54,168,386	148,305.0
April	3,102	2,061,481	115,778	49,521	15.05	57,558,564	157,586.8
May	2,945	2,201,514	109,808	47,072	13.38	64,136,663	175,596.6
June	2,732	2,335,603	105,759	45,278	11.70	66,060,102	180,862.7
July	2,125	2,435,593	82,156	35,085	8.72	72,000,280	197,126.0
August	2,454	2,571,153	94,968	40,514	9.54	75,786,383	207,491.8
September	2,441	2,689,897	95,204	40,555	9.07	76,789,668	210,238.7
October	2,599	2,791,678	99,854	42,557	9.31	81,205,872	222,329.6
November	2,692	2,812,093	103,683	44,042	9.57	78,955,613	216,168.7
December	2,921	3,032,199	109,900	47,017	9.63	82,316,181	225,369.4
<i>2017</i>							
January	2,889	2,871,663	107,444	45,940	10.06	82,919,459	227,021.1
February	2,544	2,839,255	95,204	40,864	8.96	75,083,485	205,567.4
March	2,714	2,865,134	102,450	43,673	9.47	83,344,047	228,183.6
April	2,476	2,850,550	94,042	39,950	8.69	80,911,815	221,524.5
May	2,920	2,865,692	109,733	46,816	10.19	84,028,340	230,057.1
June	2,449	2,866,091	94,121	40,052	8.54	81,726,820	223,755.8
July	1,695	2,856,782	63,695	27,175	5.93	84,692,994	231,876.8
August	1,717	2,885,921	67,270	28,679	5.95	85,074,255	232,920.6
September	1,373	2,892,033	52,598	22,222	4.75	82,664,156	226,322.1
October	1,316	2,918,944	52,881	22,391	4.51	85,914,010	235,219.7
November	1,321	2,935,243	48,960	21,019	4.50	83,522,890	228,673.2
December	1,328	2,956,037	49,095	20,751	4.49	86,815,827	237,688.8

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2018</i>							
January	1,186	2,907,827	49,109	20,558	4.08	84,672,991	231,822.0
February	931	2,888,852	35,979	15,154	3.22	76,561,878	209,615.0
March	922	2,899,742	36,145	15,341	3.18	84,869,392	232,359.7
April	826	2,885,948	33,502	14,005	2.86	82,060,840	224,670.3
May	866	2,897,492	34,158	14,376	2.99	84,908,421	232,466.6
June	767	2,883,943	27,873	11,693	2.66	82,405,556	225,614.1
July	679	2,804,519	26,602	11,187	2.42	83,178,461	227,730.2
August	719	2,808,214	28,752	12,020	2.56	82,862,451	226,865.0
September	659	2,811,538	26,241	11,099	2.34	80,589,006	220,640.7
October	817	2,839,828	33,438	13,985	2.88	83,589,489	228,855.5
November	819	2,851,247	31,162	13,037	2.87	81,269,262	222,503.1
December	795	2,863,080	30,653	12,856	2.78	84,314,011	230,839.2
<i>2019</i>							
January	820	2,870,123	31,981	13,294	2.86	83,681,454	229,107.3
February	697	2,823,596	26,605	11,244	2.47	74,935,654	205,162.6
March	763	2,792,878	29,463	12,366	2.73	81,862,684	224,127.8
April	641	2,444,384	24,394	10,253	2.62	69,493,166	190,261.9
May	661	2,417,378	22,082	9,342	2.73	70,972,739	194,312.8
June	527	2,402,105	10,609	4,572	2.19	68,821,337	188,422.6
July	116	712,409	3,989	1,690	1.63	21,216,408	58,087.4
August	79	256,862	2,436	1,026	3.08	7,601,746	20,812.4
September	85	229,852	1,237	527	3.70	6,603,757	18,080.1
Airduo RespiClick							
<i>2013</i>							
May	0	430,971	0	0	0.00	8,982,971	24,594.0
June	0	434,514	0	0	0.00	12,285,717	33,636.5
July	0	433,203	0	0	0.00	12,718,486	34,821.3
August	0	434,743	0	0	0.00	12,694,699	34,756.2
September	0	438,213	0	0	0.00	12,250,980	33,541.4
October	0	441,957	0	0	0.00	12,623,965	34,562.5
November	0	440,064	0	0	0.00	12,218,754	33,453.1
December	0	441,970	0	0	0.00	12,519,703	34,277.1

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2014</i>							
January	0	486,608	0	0	0.00	13,618,357	37,285.0
February	0	472,651	0	0	0.00	12,190,213	33,375.0
March	0	472,163	0	0	0.00	13,407,154	36,706.8
April	0	472,711	0	0	0.00	13,006,618	35,610.2
May	0	470,059	0	0	0.00	13,398,585	36,683.3
June	0	460,685	0	0	0.00	12,963,475	35,492.1
July	0	459,866	0	0	0.00	13,462,010	36,857.0
August	0	461,857	0	0	0.00	13,467,020	36,870.7
September	0	473,010	0	0	0.00	13,153,398	36,012.0
October	0	478,311	0	0	0.00	13,689,809	37,480.7
November	0	476,528	0	0	0.00	13,234,696	36,234.6
December	0	487,082	0	0	0.00	13,763,568	37,682.6
<i>2015</i>							
January	0	508,232	0	0	0.00	14,326,602	39,224.1
February	0	502,412	0	0	0.00	13,031,634	35,678.7
March	0	509,268	0	0	0.00	14,502,910	39,706.8
April	0	513,398	0	0	0.00	14,147,999	38,735.1
May	0	512,233	0	0	0.00	14,706,222	40,263.4
June	0	505,907	0	0	0.00	14,270,953	39,071.7
July	0	503,128	0	0	0.00	14,775,202	40,452.3
August	0	506,667	0	0	0.00	14,813,886	40,558.2
September	0	521,272	0	0	0.00	14,402,161	39,431.0
October	0	855,521	0	0	0.00	20,449,081	55,986.5
November	0	1,102,376	0	0	0.00	28,577,272	78,240.3
December	0	1,336,848	0	0	0.00	36,850,528	100,891.2
<i>2016</i>							
January	0	1,568,518	0	0	0.00	43,847,205	120,047.1
February	0	1,782,147	0	0	0.00	47,066,767	128,861.8
March	0	1,989,436	0	0	0.00	56,517,227	154,735.7
April	0	2,144,112	0	0	0.00	59,990,027	164,243.7
May	0	2,288,114	0	0	0.00	66,781,432	182,837.6
June	0	2,425,826	0	0	0.00	68,722,913	188,153.1
July	0	2,528,240	0	0	0.00	74,838,747	204,897.3
August	0	2,666,251	0	0	0.00	78,704,481	215,481.1
September	0	2,786,925	0	0	0.00	79,673,630	218,134.5
October	0	2,890,442	0	0	0.00	84,218,849	230,578.6
November	0	2,911,142	0	0	0.00	81,876,769	224,166.4
December	0	3,137,047	0	0	0.00	85,340,014	233,648.2

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2017</i>							
January	0	2,970,549	0	0	0.00	85,923,379	235,245.4
February	0	2,936,856	0	0	0.00	77,781,507	212,954.2
March	0	2,962,874	0	0	0.00	86,333,201	236,367.4
April	0	2,948,023	0	0	0.00	83,808,287	229,454.6
May	*****	*****	233	*****	0.02	87,029,781	238,274.6
June	*****	*****	180	*****	0.02	84,641,806	231,736.6
July	*****	*****	345	12	0.03	87,699,514	240,108.2
August	*****	*****	420	14	0.03	88,086,609	241,168.0
September	11	2,990,433	420	14	0.04	85,576,065	234,294.5
October	16	3,016,995	615	20	0.05	88,913,154	243,430.9
November	17	3,032,468	630	21	0.06	86,400,969	236,553.0
December	28	3,051,471	1,001	33	0.09	89,747,871	245,716.3
<i>2018</i>							
January	14	2,999,944	540	18	0.05	87,467,318	239,472.5
February	15	2,978,799	550	19	0.05	79,027,922	216,366.7
March	11	2,988,034	421	15	0.04	87,551,855	239,703.9
April	*****	*****	360	12	0.03	84,609,575	231,648.4
May	*****	*****	167	*****	0.02	87,497,103	239,554.0
June	*****	*****	150	*****	0.01	84,850,289	232,307.4
July	*****	*****	60	*****	0.01	85,569,096	234,275.4
August	*****	*****	211	*****	0.03	85,105,256	233,005.5
September	*****	*****	180	*****	0.02	82,684,288	226,377.2
October	*****	*****	90	*****	0.01	85,706,401	234,651.3
November	*****	*****	210	*****	0.02	83,285,404	228,023.0
December	*****	*****	181	*****	0.02	86,358,036	236,435.4
<i>2019</i>							
January	*****	*****	120	*****	0.01	85,621,143	234,417.9
February	12	2,886,229	358	12	0.04	76,650,101	209,856.5
March	*****	*****	178	*****	0.02	83,682,158	229,109.3
April	*****	*****	165	*****	0.02	71,134,133	194,754.6
May	*****	*****	94	*****	0.01	72,630,303	198,850.9
June	*****	*****	167	*****	0.03	70,422,992	192,807.6
July	*****	*****	*****	*****	0.01	21,913,479	59,995.8
August	0	263,405	0	0	0.00	7,801,261	21,358.7
September	0	235,208	0	0	0.00	6,763,408	18,517.2

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
Patients with a History of COPD							
Advair Diskus							
<i>2013</i>							
May	10,631	3,542,678	378,117	752,804	30.01	75,352,708	206,304.5
June	13,464	3,573,506	482,037	961,822	37.68	102,781,142	281,399.4
July	13,586	3,576,150	486,970	972,389	37.99	106,473,016	291,507.2
August	13,168	3,582,331	474,059	943,396	36.76	106,493,411	291,563.1
September	12,852	3,589,025	459,090	914,862	35.81	103,026,544	282,071.3
October	14,462	3,616,194	513,070	1,022,601	39.99	106,456,250	291,461.3
November	12,389	3,603,586	440,415	877,262	34.38	103,040,074	282,108.3
December	12,971	3,626,178	454,890	905,916	35.77	106,053,420	290,358.4
<i>2014</i>							
January	15,392	3,978,299	562,461	1,120,222	38.69	115,023,186	314,916.3
February	13,025	3,898,487	480,116	955,545	33.41	103,403,411	283,103.1
March	13,663	3,904,151	504,184	1,004,343	35.00	114,320,640	312,992.9
April	13,833	3,906,331	513,100	1,020,839	35.41	110,959,814	303,791.4
May	13,022	3,891,085	481,000	956,976	33.47	114,816,346	314,350.0
June	11,738	3,870,363	429,460	854,104	30.33	111,189,767	304,421.0
July	11,410	3,871,653	425,979	845,753	29.47	115,161,754	315,295.7
August	10,357	3,870,845	382,620	760,479	26.76	115,224,655	315,467.9
September	11,307	3,897,157	418,296	831,337	29.01	111,798,627	306,088.0
October	11,933	3,927,881	445,291	882,543	30.38	115,848,449	317,175.8
November	10,390	3,919,234	384,966	765,357	26.51	112,176,415	307,122.3
December	12,766	4,001,570	460,163	915,040	31.90	116,657,899	319,391.9
<i>2015</i>							
January	15,632	4,157,074	591,203	1,175,764	37.60	120,864,207	330,908.2
February	13,749	4,123,693	508,244	1,011,442	33.34	109,764,586	300,519.1
March	14,343	4,169,126	528,675	1,052,427	34.40	122,301,407	334,843.0
April	13,528	4,180,822	502,526	999,302	32.36	118,995,753	325,792.6
May	11,853	4,165,954	435,733	867,603	28.45	123,336,873	337,678.0
June	11,806	4,155,252	437,125	869,339	28.41	119,556,078	327,326.7
July	10,501	4,151,058	391,440	781,773	25.30	123,790,881	338,921.0
August	9,331	4,151,610	345,650	683,605	22.48	123,961,724	339,388.7
September	9,680	4,177,887	357,768	711,342	23.17	120,059,973	328,706.3
October	9,200	4,211,385	338,750	673,882	21.85	123,056,096	336,909.2
November	8,333	4,136,216	303,214	602,950	20.15	117,588,363	321,939.4
December	8,757	4,123,455	315,020	625,672	21.24	119,960,386	328,433.6

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2016</i>							
January	9,316	4,142,642	349,330	694,751	22.49	120,294,237	329,347.7
February	9,297	4,101,686	345,600	688,393	22.67	111,196,143	304,438.4
March	9,669	4,090,298	354,404	705,036	23.64	118,185,581	323,574.5
April	8,392	4,001,584	307,360	611,119	20.97	113,011,633	309,409.0
May	7,803	3,934,429	285,205	567,013	19.83	115,290,396	315,647.9
June	7,268	3,890,080	269,264	534,122	18.68	110,529,942	302,614.5
July	5,983	3,830,866	221,485	440,065	15.62	113,431,214	310,557.7
August	6,278	3,815,436	232,620	462,543	16.45	112,652,691	308,426.3
September	6,031	3,807,239	221,096	440,220	15.84	108,415,826	296,826.4
October	5,992	3,817,750	219,467	436,670	15.70	111,767,330	306,002.3
November	6,188	3,828,524	224,900	445,179	16.16	108,156,394	296,116.1
December	6,617	4,063,408	234,819	467,526	16.28	112,304,047	307,471.7
<i>2017</i>							
January	9,082	3,923,804	335,287	667,196	23.15	113,224,267	309,991.1
February	8,096	3,886,709	295,723	588,344	20.83	102,666,613	281,085.9
March	7,965	3,907,921	294,484	585,696	20.38	113,718,536	311,344.4
April	6,680	3,858,614	243,607	483,817	17.31	109,887,838	300,856.5
May	6,473	3,848,006	238,339	473,722	16.82	113,567,740	310,931.5
June	5,728	3,837,602	210,411	417,831	14.93	110,139,051	301,544.3
July	4,652	3,824,233	170,980	340,005	12.16	114,057,223	312,271.7
August	5,613	3,844,896	215,726	428,954	14.60	114,315,072	312,977.6
September	6,698	3,860,895	276,088	550,076	17.35	110,873,529	303,555.2
October	7,233	3,885,548	301,093	599,547	18.62	114,868,264	314,492.2
November	6,874	3,905,676	281,547	560,740	17.60	111,358,074	304,881.8
December	6,694	3,953,351	264,100	526,261	16.93	115,665,306	316,674.3
<i>2018</i>							
January	8,049	3,973,962	323,157	644,526	20.25	115,234,422	315,494.7
February	6,579	3,938,010	257,517	512,278	16.71	104,280,845	285,505.4
March	6,506	3,933,196	258,178	512,800	16.54	115,268,591	315,588.2
April	5,863	3,900,416	225,753	449,277	15.03	111,322,971	304,785.7
May	5,447	3,885,803	210,313	417,629	14.02	114,787,505	314,271.1
June	4,638	3,859,611	178,206	354,146	12.02	111,040,388	304,012.0
July	4,185	3,821,724	156,810	312,008	10.95	114,173,764	312,590.7
August	4,162	3,825,767	161,937	322,188	10.88	114,033,809	312,207.6
September	3,691	3,828,388	141,128	281,009	9.64	110,395,541	302,246.5
October	4,587	3,853,538	173,491	344,145	11.90	114,136,060	312,487.5
November	4,137	3,858,652	155,650	309,343	10.72	110,439,564	302,367.0
December	4,037	3,873,014	147,424	292,193	10.42	113,911,949	311,873.9

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
2019							
January	5,277	3,879,572	204,156	406,645	13.60	112,827,792	308,905.7
February	4,111	3,799,099	156,174	310,940	10.82	100,829,249	276,055.4
March	3,287	3,782,075	117,848	234,925	8.69	111,142,827	304,292.5
April	3,059	3,623,340	108,132	214,744	8.44	103,570,051	283,559.3
May	2,782	3,606,224	92,011	183,215	7.71	106,671,312	292,050.1
June	2,449	3,587,065	44,873	89,148	6.83	103,442,417	283,209.9
July	364	695,236	8,107	16,166	5.24	20,836,342	57,046.8
August	110	172,693	3,365	6,730	6.37	5,142,896	14,080.5
September	98	159,813	1,483	2,966	6.13	4,589,992	12,566.7
Advair HFA							
2013							
May	1,160	4,063,289	41,058	15,806	2.85	86,793,213	237,626.9
June	1,476	4,092,637	52,134	20,284	3.61	118,351,152	324,027.8
July	1,561	4,095,626	54,252	21,105	3.81	122,576,154	335,595.2
August	1,469	4,100,760	52,988	20,458	3.58	122,559,283	335,549.0
September	1,377	4,106,669	48,225	18,816	3.35	118,531,963	324,522.8
October	1,642	4,133,665	58,958	22,846	3.97	122,451,328	335,253.5
November	1,468	4,118,747	51,276	20,294	3.56	118,472,821	324,360.9
December	1,457	4,137,657	49,857	19,521	3.52	121,869,239	333,659.8
2014							
January	1,740	4,532,225	62,004	24,272	3.84	132,104,486	361,682.4
February	1,456	4,444,465	52,599	20,771	3.28	118,632,501	324,798.1
March	1,586	4,445,147	57,797	22,277	3.57	131,019,767	358,712.6
April	1,609	4,443,461	59,163	22,941	3.62	127,012,972	347,742.6
May	1,488	4,423,896	53,524	20,817	3.36	131,259,894	359,370.0
June	1,370	4,400,359	50,253	19,497	3.11	127,022,852	347,769.6
July	1,347	4,398,859	49,961	19,237	3.06	131,441,295	359,866.7
August	1,329	4,394,853	47,311	18,345	3.02	131,409,005	359,778.2
September	1,376	4,418,815	49,099	20,404	3.11	127,368,853	348,716.9
October	1,525	4,447,401	53,389	20,804	3.43	131,853,283	360,994.6
November	1,300	4,434,318	46,482	18,050	2.93	127,554,604	349,225.5
December	1,612	4,512,088	57,394	22,369	3.57	132,402,994	362,499.6

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2015</i>							
January	2,091	4,667,396	77,726	30,340	4.48	136,649,795	374,126.7
February	1,972	4,630,366	71,801	27,994	4.26	123,906,230	339,236.8
March	2,074	4,676,290	74,209	28,930	4.44	137,925,721	377,620.0
April	1,931	4,688,558	71,435	27,612	4.12	134,112,912	367,181.1
May	1,670	4,673,034	60,652	23,379	3.57	138,960,804	380,453.9
June	1,671	4,661,529	61,912	23,795	3.58	134,666,176	368,695.9
July	1,431	4,657,440	52,696	20,218	3.07	139,402,515	381,663.3
August	1,285	4,657,455	47,940	18,360	2.76	139,548,546	382,063.1
September	1,447	4,683,560	51,203	19,783	3.09	135,106,657	369,901.9
October	1,245	4,715,729	44,951	17,136	2.64	138,149,060	378,231.5
November	1,128	4,614,461	41,102	15,829	2.44	131,558,585	360,187.8
December	1,203	4,582,770	42,620	16,501	2.63	133,868,991	366,513.3
<i>2016</i>							
January	1,316	4,587,713	47,723	18,326	2.87	133,849,496	366,459.9
February	1,358	4,533,554	50,085	19,279	3.00	123,452,907	337,995.6
March	1,344	4,510,627	49,135	18,897	2.98	130,932,686	358,474.2
April	1,244	4,409,923	44,039	16,893	2.82	125,016,069	342,275.3
May	1,105	4,333,199	40,657	15,471	2.55	127,421,787	348,861.8
June	1,056	4,280,926	38,455	14,741	2.47	122,038,763	334,123.9
July	907	4,213,482	32,200	12,379	2.15	125,110,491	342,533.9
August	941	4,191,430	34,122	13,035	2.25	124,126,290	339,839.3
September	969	4,177,412	35,629	13,756	2.32	119,333,714	326,717.9
October	880	4,186,462	31,653	12,221	2.10	122,941,827	336,596.4
November	902	4,194,532	32,834	12,504	2.15	118,906,367	325,547.9
December	1,008	4,438,582	35,776	13,801	2.27	123,364,312	337,753.1
<i>2017</i>							
January	1,490	4,282,197	55,220	21,435	3.48	124,102,174	339,773.2
February	1,312	4,241,731	48,403	18,292	3.09	112,457,913	307,893.0
March	1,263	4,263,466	46,793	17,970	2.96	124,546,051	340,988.5
April	1,083	4,212,525	39,202	14,927	2.57	120,330,408	329,446.7
May	1,081	4,201,034	40,926	15,517	2.57	124,335,718	340,412.6
June	941	4,190,063	35,129	13,418	2.25	120,541,637	330,025.0
July	824	4,175,526	30,317	11,476	1.97	124,784,041	341,640.1
August	879	4,195,883	32,047	12,208	2.09	125,029,441	342,312.0
September	789	4,212,025	28,735	11,156	1.87	121,264,302	332,003.6
October	905	4,238,734	33,338	12,463	2.14	125,663,360	344,047.5
November	847	4,260,074	30,687	11,792	1.99	121,847,427	333,600.1
December	964	4,308,919	34,123	13,091	2.24	126,540,709	346,449.6

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Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
2018							
January	1,284	4,322,860	50,041	19,313	2.97	125,878,618	344,636.9
February	1,054	4,286,393	40,736	15,915	2.46	113,887,014	311,805.7
March	1,197	4,282,819	48,366	18,708	2.79	125,925,434	344,765.0
April	1,140	4,249,832	46,272	17,685	2.68	121,624,548	332,989.9
May	1,184	4,234,159	46,791	18,126	2.80	125,401,084	343,329.5
June	990	4,206,546	38,187	14,893	2.35	121,279,121	332,044.1
July	871	4,166,467	34,338	13,297	2.09	124,707,769	341,431.3
August	918	4,167,461	36,057	13,858	2.20	124,459,298	340,751.0
September	776	4,167,699	31,390	12,281	1.86	120,419,910	329,691.7
October	945	4,191,200	36,746	14,209	2.25	124,437,896	340,692.4
November	879	4,193,331	34,165	13,231	2.10	120,334,890	329,459.0
December	865	4,204,411	33,012	12,677	2.06	124,044,685	339,615.8
2019							
January	1,007	4,203,329	39,907	15,503	2.40	122,695,242	335,921.3
February	942	4,117,919	37,122	14,310	2.29	109,620,813	300,125.4
March	1,052	4,095,267	38,607	14,968	2.57	120,679,429	330,402.3
April	1,030	3,927,065	38,201	14,664	2.62	112,515,349	308,050.2
May	985	3,902,767	34,180	13,220	2.52	115,701,365	316,773.1
June	845	3,879,009	18,173	7,075	2.18	112,061,537	306,807.8
July	256	741,019	4,858	1,940	3.45	22,237,625	60,883.3
August	39	182,050	1,250	496	2.14	5,429,451	14,865.0
September	18	167,950	261	98	1.07	4,831,270	13,227.3
Breo Ellipta							
2013							
May	0	4,098,803	0	0	0.00	87,581,501	239,785.1
June	0	4,128,106	0	0	0.00	119,430,700	326,983.4
July	0	4,131,403	0	0	0.00	123,700,919	338,674.7
August	0	4,136,781	0	0	0.00	123,691,419	338,648.6
September	*****	*****	*****	60	0.00	119,627,252	327,521.6
October	*****	*****	180	360	0.00	123,584,082	338,354.8
November	*****	*****	3,290	5,881	0.20	119,568,658	327,361.1
December	201	4,173,612	7,596	13,131	0.48	122,992,867	336,736.1

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2014</i>							
January	489	4,570,725	17,886	32,806	1.07	133,302,695	364,962.9
February	695	4,482,239	26,157	46,200	1.55	119,691,302	327,696.9
March	918	4,481,966	36,421	63,786	2.05	132,163,096	361,842.8
April	1,395	4,479,292	55,255	97,147	3.11	128,082,324	350,670.3
May	2,286	4,458,544	91,663	165,308	5.13	132,310,685	362,246.9
June	2,389	4,433,018	94,680	172,044	5.39	127,975,838	350,378.7
July	2,594	4,429,357	104,550	190,588	5.86	132,358,035	362,376.6
August	2,446	4,422,908	96,505	178,005	5.53	132,253,085	362,089.2
September	2,692	4,444,734	105,018	193,806	6.06	128,119,028	350,770.8
October	2,868	4,470,872	109,395	201,272	6.41	132,549,359	362,900.4
November	2,289	4,455,108	86,534	161,233	5.14	128,152,885	350,863.5
December	2,749	4,530,706	106,161	195,160	6.07	132,948,705	363,993.7
<i>2015</i>							
January	3,406	4,683,441	131,583	246,335	7.27	137,120,976	375,416.8
February	3,555	4,643,891	131,202	248,095	7.66	124,254,842	340,191.2
March	4,214	4,687,256	156,198	293,283	8.99	138,226,123	378,442.5
April	4,290	4,696,422	164,075	305,923	9.13	134,305,909	367,709.5
May	3,877	4,677,620	148,393	273,609	8.29	139,062,187	380,731.5
June	4,205	4,663,134	159,048	296,193	9.02	134,670,040	368,706.5
July	4,129	4,655,968	157,470	294,549	8.87	139,313,209	381,418.8
August	3,898	4,652,744	146,400	272,974	8.38	139,359,755	381,546.2
September	4,137	4,675,897	154,881	292,191	8.85	134,834,963	369,158.0
October	4,007	4,704,693	147,535	283,719	8.52	137,757,988	377,160.8
November	4,702	4,599,737	161,387	308,302	10.22	131,063,172	358,831.4
December	5,441	4,564,034	184,283	355,200	11.92	133,224,268	364,748.2
<i>2016</i>							
January	6,212	4,563,686	223,397	432,587	13.61	133,041,793	364,248.6
February	6,514	4,504,242	231,238	448,700	14.46	122,548,130	335,518.5
March	7,081	4,476,274	250,966	486,031	15.82	129,806,370	355,390.5
April	6,160	4,370,446	216,633	420,803	14.09	123,784,577	338,903.7
May	5,911	4,289,411	210,165	407,338	13.78	126,016,522	345,014.4
June	5,554	4,232,995	199,502	389,238	13.12	120,563,390	330,084.6
July	5,187	4,161,938	184,897	361,109	12.46	123,477,313	338,062.5
August	5,500	4,136,464	198,340	385,991	13.30	122,389,947	335,085.4
September	5,664	4,118,816	201,595	393,100	13.75	117,547,457	321,827.4
October	5,430	4,123,599	191,064	371,829	13.17	120,973,033	331,206.1
November	5,764	4,127,642	199,916	390,076	13.96	116,879,429	319,998.4
December	6,178	4,364,290	216,353	421,915	14.16	121,131,718	331,640.6

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2017</i>							
January	10,306	4,206,949	376,266	736,416	24.50	121,703,842	333,207.0
February	10,411	4,159,542	374,222	731,933	25.03	110,075,872	301,371.3
March	10,392	4,173,007	373,345	732,503	24.90	121,665,518	333,102.0
April	9,199	4,114,059	331,064	649,071	22.36	117,318,092	321,199.4
May	9,276	4,095,387	330,228	646,565	22.65	120,994,272	331,264.3
June	8,351	4,077,311	297,022	580,641	20.48	117,116,614	320,647.8
July	7,079	4,056,486	250,420	490,607	17.45	121,065,426	331,459.1
August	7,496	4,071,373	267,112	523,980	18.41	121,139,678	331,662.4
September	7,008	4,081,674	246,559	483,421	17.17	117,340,325	321,260.3
October	7,502	4,102,902	263,450	515,463	18.28	121,434,264	332,468.9
November	7,709	4,119,020	274,338	536,315	18.72	117,591,538	321,948.1
December	7,745	4,161,957	273,979	538,411	18.61	121,964,645	333,921.0
<i>2018</i>							
January	9,131	4,171,003	335,032	660,023	21.89	121,160,302	331,718.8
February	7,810	4,128,999	278,866	550,004	18.91	109,472,797	299,720.2
March	8,184	4,120,123	293,052	577,533	19.86	120,883,376	330,960.6
April	7,748	4,082,305	280,307	551,047	18.98	116,601,698	319,238.1
May	7,883	4,062,276	282,171	554,942	19.41	120,078,148	328,756.1
June	6,901	4,030,486	243,472	480,009	17.12	116,007,624	317,611.6
July	6,299	3,986,847	222,081	437,010	15.80	119,152,157	326,220.8
August	6,433	3,984,115	228,215	449,557	16.15	118,795,508	325,244.4
September	5,600	3,981,068	203,392	399,801	14.07	114,848,013	314,436.7
October	6,547	4,001,954	231,567	456,081	16.36	118,593,965	324,692.6
November	5,966	4,002,004	208,743	411,965	14.91	114,616,275	313,802.3
December	5,620	4,011,128	192,758	380,507	14.01	118,076,110	323,274.8
<i>2019</i>							
January	6,780	4,010,176	241,382	477,337	16.91	116,742,932	319,624.7
February	5,868	3,923,456	207,996	411,106	14.96	104,203,026	285,292.3
March	6,309	3,898,667	219,400	432,949	16.18	114,619,840	313,812.0
April	6,302	3,732,709	216,301	427,290	16.88	106,714,037	292,167.1
May	6,239	3,706,923	199,543	395,062	16.83	109,662,747	300,240.2
June	5,277	3,681,672	96,317	190,727	14.33	106,176,514	290,695.5
July	747	715,399	15,518	30,871	10.44	21,444,607	58,712.1
August	217	175,293	6,844	13,564	12.38	5,220,721	14,293.6
September	199	161,002	3,092	6,171	12.36	4,622,662	12,656.2

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
Symbicort							
<i>2013</i>							
May	7,211	3,859,494	259,545	84,946	18.68	82,282,146	225,276.2
June	9,260	3,887,046	332,947	108,567	23.82	112,123,770	306,978.2
July	9,518	3,887,152	344,041	112,144	24.49	116,049,711	317,726.8
August	9,270	3,889,427	334,778	109,628	23.83	115,953,635	317,463.8
September	9,035	3,892,379	324,163	105,763	23.21	112,060,353	306,804.5
October	10,394	3,916,450	375,362	122,319	26.54	115,672,035	316,692.8
November	9,624	3,899,027	347,815	113,622	24.68	111,825,464	306,161.4
December	10,444	3,916,223	370,328	120,823	26.67	114,936,528	314,679.1
<i>2014</i>							
January	15,552	4,289,913	588,856	192,281	36.25	124,493,288	340,844.0
February	16,402	4,196,801	613,276	199,770	39.08	111,585,533	305,504.5
March	16,407	4,189,235	620,587	202,248	39.16	122,959,433	336,644.6
April	16,639	4,178,999	628,427	203,156	39.82	118,964,207	325,706.2
May	14,992	4,151,088	559,373	181,080	36.12	122,717,975	335,983.5
June	13,215	4,119,868	497,281	160,482	32.08	118,540,688	324,546.7
July	12,754	4,111,586	477,229	154,177	31.02	122,477,391	335,324.8
August	11,431	4,101,409	426,264	138,413	27.87	122,277,137	334,776.6
September	12,281	4,119,845	454,175	147,423	29.81	118,373,370	324,088.6
October	13,871	4,142,502	513,122	166,151	33.48	122,369,550	335,029.6
November	12,611	4,123,020	466,814	151,321	30.59	118,176,663	323,550.1
December	14,209	4,194,322	517,887	167,684	33.88	122,516,845	335,432.8
<i>2015</i>							
January	15,491	4,336,917	580,321	188,876	35.72	126,414,359	346,103.7
February	14,359	4,294,413	527,882	172,398	33.44	114,479,022	313,426.5
March	16,946	4,333,147	620,025	202,063	39.11	127,255,622	348,406.9
April	16,407	4,336,652	610,426	198,249	37.83	123,546,409	338,251.6
May	14,136	4,313,787	523,611	169,531	32.77	127,804,344	349,909.2
June	13,094	4,296,602	487,269	157,201	30.48	123,700,707	338,674.1
July	11,418	4,286,657	426,786	138,414	26.64	127,923,941	350,236.7
August	10,524	4,282,036	391,554	126,620	24.58	127,929,299	350,251.3
September	10,867	4,303,689	402,767	130,160	25.25	123,748,188	338,804.1
October	10,613	4,332,207	392,323	126,811	24.50	126,588,553	346,580.6
November	9,426	4,245,306	346,123	112,353	22.20	120,700,286	330,459.4
December	10,214	4,223,643	371,696	120,643	24.18	122,908,823	336,506.0

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2016</i>							
January	11,351	4,232,534	427,163	138,855	26.82	122,967,097	336,665.6
February	11,644	4,181,916	430,564	140,004	27.84	113,411,079	310,502.6
March	12,171	4,161,672	447,565	145,722	29.25	120,292,026	329,341.6
April	10,185	4,064,590	378,472	123,533	25.06	114,816,095	314,349.3
May	10,111	3,990,664	371,499	120,786	25.34	116,954,844	320,204.9
June	9,730	3,939,469	360,004	117,762	24.70	111,944,757	306,488.0
July	8,090	3,873,862	299,199	97,387	20.88	114,705,130	314,045.5
August	8,708	3,853,223	325,311	105,989	22.60	113,764,880	311,471.3
September	8,304	3,839,667	310,134	100,718	21.63	109,347,661	299,377.6
October	8,184	3,845,607	300,499	97,948	21.28	112,580,543	308,228.7
November	8,173	3,852,168	302,983	98,516	21.22	108,818,115	297,927.8
December	8,430	4,083,203	302,394	98,102	20.65	112,874,937	309,034.7
<i>2017</i>							
January	9,311	3,937,245	348,139	113,560	23.65	113,621,798	311,079.5
February	8,787	3,898,669	326,785	106,595	22.54	102,964,977	281,902.7
March	9,244	3,917,720	344,499	111,997	23.60	113,982,883	312,068.1
April	7,727	3,865,658	293,372	95,273	19.99	110,071,850	301,360.3
May	7,869	3,853,002	296,507	96,445	20.42	113,683,722	311,249.1
June	7,214	3,840,378	272,984	89,036	18.78	110,182,122	301,662.2
July	6,236	3,824,164	235,712	76,659	16.31	114,022,790	312,177.4
August	6,780	3,842,364	254,526	82,594	17.65	114,205,862	312,678.6
September	6,386	3,856,455	238,492	77,822	16.56	110,726,038	303,151.4
October	6,917	3,880,662	255,805	83,238	17.82	114,699,207	314,029.3
November	6,918	3,900,897	258,628	83,450	17.73	111,200,272	304,449.8
December	7,267	3,949,061	265,801	86,447	18.40	115,496,155	316,211.2
<i>2018</i>							
January	10,491	3,971,568	394,102	128,584	26.42	115,086,917	315,090.8
February	9,186	3,932,836	343,742	112,128	23.36	104,080,229	284,956.1
March	9,428	3,925,320	355,584	116,217	24.02	114,957,397	314,736.2
April	8,521	3,888,856	319,480	104,321	21.91	110,925,202	303,696.7
May	8,729	3,870,248	326,594	106,715	22.55	114,251,824	312,804.4
June	7,665	3,840,056	289,321	94,054	19.96	110,406,281	302,275.9
July	6,837	3,800,145	265,782	86,349	17.99	113,475,235	310,678.3
August	7,034	3,799,077	266,315	86,753	18.52	113,168,468	309,838.4
September	6,593	3,798,086	246,379	80,639	17.36	109,451,757	299,662.6
October	7,743	3,819,926	291,762	95,248	20.27	113,060,384	309,542.5
November	7,263	3,821,311	274,061	89,170	19.01	109,292,682	299,227.1
December	7,130	3,831,355	264,032	86,300	18.61	112,598,725	308,278.5

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
2019							
January	8,986	3,833,775	340,877	111,522	23.44	111,375,547	304,929.6
February	7,882	3,748,334	293,102	96,123	21.03	99,382,312	272,093.9
March	8,698	3,724,203	326,407	107,067	23.36	109,298,559	299,243.1
April	8,419	3,561,282	315,450	103,399	23.64	101,648,442	278,298.3
May	7,993	3,536,323	268,438	88,160	22.60	104,469,269	286,021.3
June	6,924	3,512,416	132,771	43,827	19.71	101,176,326	277,005.7
July	1,212	689,422	25,948	8,502	17.58	20,646,652	56,527.5
August	283	172,372	9,068	3,013	16.42	5,131,257	14,048.6
September	264	158,158	4,061	1,363	16.69	4,539,132	12,427.5
Dulera							
2013							
May	2,197	4,050,291	76,163	32,044	5.42	86,502,460	236,830.8
June	2,804	4,078,553	99,482	41,714	6.87	117,918,521	322,843.3
July	2,776	4,080,222	99,144	41,879	6.80	122,088,274	334,259.5
August	2,620	4,084,145	92,943	39,089	6.42	122,039,201	334,125.1
September	2,549	4,088,886	90,301	38,087	6.23	117,994,412	323,051.1
October	2,892	4,114,691	101,707	42,904	7.03	121,863,867	333,645.1
November	2,697	4,098,742	93,457	39,091	6.58	117,869,441	322,708.9
December	2,869	4,116,820	101,238	42,453	6.97	121,218,412	331,877.9
2014							
January	4,145	4,508,372	154,365	65,023	9.19	131,357,838	359,638.2
February	3,945	4,419,128	147,428	62,067	8.93	117,910,791	322,822.2
March	4,199	4,417,970	156,452	66,011	9.50	130,161,464	356,362.7
April	4,201	4,414,329	157,678	65,252	9.52	126,121,756	345,302.5
May	4,032	4,392,838	150,401	63,061	9.18	130,281,931	356,692.5
June	3,484	4,367,338	131,012	54,804	7.98	126,020,414	345,025.1
July	3,346	4,364,190	126,195	52,515	7.67	130,356,110	356,895.6
August	2,990	4,358,619	113,000	47,636	6.86	130,280,910	356,689.7
September	3,139	4,381,154	117,456	48,899	7.16	126,240,621	345,628.0
October	3,361	4,408,155	123,609	51,980	7.62	130,637,988	357,667.3
November	2,841	4,393,704	106,531	44,689	6.47	126,337,282	345,892.6
December	3,492	4,470,155	129,409	54,107	7.81	131,108,081	358,954.4

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2015</i>							
January	3,421	4,622,466	127,012	53,604	7.40	135,290,883	370,406.3
February	3,135	4,585,147	115,108	48,171	6.84	122,656,193	335,814.4
March	3,570	4,630,602	128,109	53,828	7.71	136,527,619	373,792.2
April	3,324	4,642,207	120,371	50,314	7.16	132,740,764	363,424.4
May	2,922	4,626,135	108,667	45,404	6.32	137,523,277	376,518.2
June	2,781	4,614,309	104,930	43,959	6.03	133,263,701	364,856.1
July	2,533	4,609,936	95,448	39,782	5.49	137,942,674	377,666.5
August	2,352	4,609,503	87,522	36,436	5.10	138,072,298	378,021.3
September	2,469	4,635,198	92,261	38,565	5.33	133,670,173	365,969.0
October	2,278	4,666,803	85,508	35,228	4.88	136,698,435	374,259.9
November	1,998	4,568,079	74,453	30,763	4.37	130,210,678	356,497.4
December	2,238	4,538,197	82,291	34,076	4.93	132,522,950	362,828.1
<i>2016</i>							
January	1,856	4,543,754	69,263	29,048	4.08	132,535,956	362,863.7
February	2,007	4,490,987	73,836	31,080	4.47	122,264,840	334,742.9
March	2,121	4,469,228	78,868	33,113	4.75	129,694,149	355,083.2
April	1,707	4,369,753	64,815	27,456	3.91	123,848,712	339,079.3
May	1,651	4,294,057	63,408	26,766	3.84	126,242,758	345,633.8
June	1,593	4,242,447	61,154	25,714	3.75	120,910,791	331,035.7
July	1,264	4,175,793	47,303	19,959	3.03	123,967,237	339,403.8
August	1,310	4,154,532	49,565	21,006	3.15	123,005,132	336,769.7
September	1,218	4,141,258	46,966	19,434	2.94	118,269,684	323,804.7
October	1,286	4,150,737	48,172	20,078	3.10	121,858,163	333,629.5
November	1,337	4,159,292	50,989	21,318	3.21	117,869,978	322,710.4
December	1,431	4,403,281	51,775	21,766	3.25	122,314,624	334,879.2
<i>2017</i>							
January	1,068	4,248,936	40,002	16,957	2.51	123,111,322	337,060.4
February	1,039	4,210,495	38,497	16,454	2.47	111,607,795	305,565.5
March	1,073	4,233,099	39,451	16,551	2.53	123,638,253	338,503.1
April	845	4,182,789	31,905	13,570	2.02	119,468,787	327,087.7
May	940	4,172,009	34,680	14,819	2.25	123,461,935	338,020.4
June	892	4,161,655	33,966	14,383	2.14	119,712,844	327,755.9
July	705	4,147,711	27,628	11,674	1.70	123,941,619	339,333.7
August	653	4,168,512	24,918	10,681	1.57	124,203,670	340,051.1
September	605	4,185,196	22,902	9,769	1.45	120,479,059	329,853.7
October	553	4,212,373	21,043	8,764	1.31	124,869,197	341,873.2
November	519	4,234,881	19,668	8,293	1.23	121,107,055	331,573.0
December	561	4,285,006	21,048	8,812	1.31	125,812,494	344,455.8

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2018</i>							
January	666	4,301,498	25,168	10,513	1.55	125,234,699	342,873.9
February	497	4,266,707	18,374	7,641	1.16	113,355,354	310,350.0
March	545	4,264,012	19,820	8,284	1.28	125,370,517	343,245.8
April	489	4,232,155	17,859	7,448	1.16	121,119,163	331,606.2
May	471	4,217,317	18,138	7,502	1.12	124,902,943	341,965.6
June	399	4,190,901	15,360	6,375	0.95	120,824,207	330,798.7
July	423	4,152,376	16,138	6,713	1.02	124,278,571	340,256.2
August	450	4,156,211	16,981	7,092	1.08	124,113,719	339,804.8
September	415	4,157,460	15,876	6,602	1.00	120,118,010	328,865.2
October	459	4,181,608	17,730	7,172	1.10	124,150,436	339,905.4
November	399	4,184,736	14,784	6,163	0.95	120,081,509	328,765.3
December	422	4,196,607	15,647	6,464	1.01	123,807,093	338,965.3
<i>2019</i>							
January	573	4,196,706	21,102	8,734	1.37	122,499,268	335,384.7
February	496	4,112,397	17,636	7,308	1.21	109,476,115	299,729.3
March	509	4,091,997	18,668	7,567	1.24	120,589,822	330,156.9
April	416	3,924,005	13,953	5,874	1.06	112,437,535	307,837.2
May	418	3,901,592	13,357	5,643	1.07	115,678,776	316,711.2
June	378	3,878,394	6,447	2,732	0.97	112,053,171	306,784.9
July	36	739,063	996	402	0.49	22,181,479	60,729.6
August	23	181,924	685	297	1.26	5,426,414	14,856.7
September	12	168,337	211	84	0.71	4,843,250	13,260.1
Airduo RespiClick							
<i>2013</i>							
May	0	4,098,803	0	0	0.00	87,581,501	239,785.1
June	0	4,128,106	0	0	0.00	119,430,700	326,983.4
July	0	4,131,403	0	0	0.00	123,700,919	338,674.7
August	0	4,136,781	0	0	0.00	123,691,419	338,648.6
September	0	4,142,726	0	0	0.00	119,627,278	327,521.6
October	0	4,169,624	0	0	0.00	123,584,129	338,354.9
November	0	4,154,794	0	0	0.00	119,569,536	327,363.5
December	0	4,173,703	0	0	0.00	122,998,581	336,751.8

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2014</i>							
January	0	4,571,132	0	0	0.00	133,321,739	365,015.0
February	0	4,483,136	0	0	0.00	119,724,553	327,788.0
March	0	4,483,596	0	0	0.00	132,225,360	362,013.3
April	0	4,481,882	0	0	0.00	128,177,491	350,930.8
May	0	4,462,561	0	0	0.00	132,466,884	362,674.6
June	0	4,439,369	0	0	0.00	128,198,928	350,989.5
July	0	4,438,148	0	0	0.00	132,665,318	363,217.8
August	0	4,434,303	0	0	0.00	132,639,967	363,148.4
September	0	4,458,615	0	0	0.00	128,568,710	352,001.9
October	0	4,487,495	0	0	0.00	133,100,115	364,408.3
November	0	4,474,606	0	0	0.00	128,767,125	352,545.2
December	0	4,552,571	0	0	0.00	133,663,005	365,949.4
<i>2015</i>							
January	0	4,708,782	0	0	0.00	137,944,678	377,671.9
February	0	4,672,427	0	0	0.00	125,093,077	342,486.2
March	0	4,719,295	0	0	0.00	139,267,468	381,293.5
April	0	4,732,513	0	0	0.00	135,435,742	370,802.9
May	0	4,717,683	0	0	0.00	140,349,006	384,254.6
June	0	4,706,756	0	0	0.00	136,028,590	372,426.0
July	0	4,703,450	0	0	0.00	140,830,573	385,573.1
August	0	4,703,956	0	0	0.00	140,989,591	386,008.5
September	0	4,730,662	0	0	0.00	136,518,035	373,766.0
October	0	4,763,211	0	0	0.00	139,571,810	382,126.8
November	0	4,659,547	0	0	0.00	132,877,973	363,800.1
December	0	4,626,303	0	0	0.00	135,192,377	370,136.6
<i>2016</i>							
January	0	4,630,234	0	0	0.00	135,151,153	370,023.7
February	0	4,575,338	0	0	0.00	124,647,769	341,267.0
March	0	4,551,882	0	0	0.00	132,190,856	361,918.8
April	0	4,450,405	0	0	0.00	126,216,914	345,563.1
May	0	4,373,314	0	0	0.00	128,649,363	352,222.8
June	0	4,320,667	0	0	0.00	123,213,883	337,341.2
July	0	4,252,802	0	0	0.00	126,316,125	345,834.7
August	0	4,230,488	0	0	0.00	125,323,076	343,115.9
September	0	4,216,256	0	0	0.00	120,485,090	329,870.2
October	0	4,225,645	0	0	0.00	124,134,567	339,861.9
November	0	4,233,806	0	0	0.00	120,066,764	328,724.9
December	0	4,479,327	0	0	0.00	124,570,592	341,055.7

Table 3. Summary of Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019, by Year and Month

Month	New Users	Eligible Members ¹	Days Supplied	Amount Supplied	New Users per 10,000 Eligible Members	Eligible Member-Days ¹	Eligible Member-Years ¹
<i>2017</i>							
January	0	4,321,518	0	0	0.00	125,306,907	343,071.6
February	0	4,281,442	0	0	0.00	113,560,805	310,912.5
March	0	4,303,758	0	0	0.00	125,782,131	344,372.7
April	0	4,253,100	0	0	0.00	121,534,620	332,743.7
May	*****	*****	*****	*****	0.00	125,588,929	343,843.7
June	*****	*****	120	*****	0.01	121,767,737	333,381.9
July	*****	*****	60	*****	0.00	126,063,127	345,142.0
August	*****	*****	330	70	0.02	126,317,876	345,839.5
September	*****	*****	84	*****	0.01	122,521,861	335,446.6
October	*****	*****	330	11	0.02	126,973,666	347,635.0
November	*****	*****	180	*****	0.01	123,123,875	337,094.8
December	*****	*****	247	*****	0.02	127,869,840	350,088.5
<i>2018</i>							
January	15	4,365,753	464	15	0.03	127,194,378	348,239.2
February	12	4,329,823	392	13	0.03	115,089,297	315,097.3
March	*****	*****	180	*****	0.01	127,273,248	348,455.2
April	*****	*****	165	*****	0.01	122,945,178	336,605.6
May	*****	*****	135	*****	0.01	126,779,824	347,104.2
June	*****	*****	97	*****	0.01	122,626,243	335,732.4
July	*****	*****	120	181	0.00	126,109,335	345,268.5
August	0	4,213,202	0	0	0.00	125,864,507	344,598.2
September	*****	*****	158	*****	0.01	121,785,997	333,431.9
October	*****	*****	150	*****	0.01	125,855,566	344,573.8
November	*****	*****	195	*****	0.01	121,710,908	333,226.3
December	*****	*****	156	*****	0.02	125,468,849	343,515.0
<i>2019</i>							
January	*****	*****	208	*****	0.01	124,095,335	339,754.5
February	*****	*****	285	*****	0.02	110,885,506	303,588.0
March	15	4,140,813	410	14	0.04	122,077,512	334,230.0
April	*****	*****	*****	*****	0.00	113,843,774	311,687.3
May	*****	*****	250	*****	0.02	117,075,912	320,536.4
June	*****	*****	41	*****	0.01	113,396,711	310,463.3
July	0	749,545	0	0	0.00	22,501,478	61,605.7
August	0	183,644	0	0	0.00	5,478,797	15,000.1
September	0	169,358	0	0	0.00	4,873,317	13,342.4

¹Eligible Members, Member-Days, and Member-Years are reflective of the number of patients that met all cohort entry criteria on at least one day during the query period.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 4. Summary of Database Enrollment Time following Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

		Number of New Users by Length of Enrollment Time ¹ Following Incident Use										
		0-364 days (<1 year)		365-729 days (1-2 years)		730-1,094 days (2-3 years)		1,095-1,459 days (3-4 years)		1,460+ days (4+ years)		
Exposure	Cohort Criteria	Total	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
		Number of New Users	Number of Episodes	Total Episodes	Number of Episodes	Total Episodes	Number of Episodes	Total Episodes	Number of Episodes	Total Episodes	Number of Episodes	Total Episodes
Advair Diskus	History of Asthma	314,483	96,828	30.8%	97,169	30.9%	59,585	18.9%	36,939	11.7%	23,962	7.6%
	History of COPD	643,112	160,819	25.0%	131,601	20.5%	103,690	16.1%	90,969	14.1%	156,033	24.3%
Advair HFA	History of Asthma	67,391	25,529	37.9%	17,645	26.2%	12,222	18.1%	7,320	10.9%	4,675	6.9%
	History of COPD	92,181	27,459	29.8%	19,439	21.1%	14,594	15.8%	12,061	13.1%	18,628	20.2%
Breo Ellipta	History of Asthma	185,604	75,548	40.7%	57,038	30.7%	38,504	20.7%	13,497	7.3%	1,017	0.5%
	History of COPD	369,649	129,334	35.0%	102,720	27.8%	74,154	20.1%	39,682	10.7%	23,759	6.4%
Symbicort	History of Asthma	304,892	114,309	37.5%	79,362	26.0%	57,612	18.9%	32,093	10.5%	21,516	7.1%
	History of COPD	751,633	214,745	28.6%	152,695	20.3%	117,778	15.7%	103,824	13.8%	162,591	21.6%
Dulera	History of Asthma	110,720	25,491	23.0%	22,321	20.2%	27,913	25.2%	20,043	18.1%	14,952	13.5%
	History of COPD	134,330	27,137	20.2%	20,969	15.6%	21,000	15.6%	22,129	16.5%	43,095	32.1%
Airduo	History of Asthma	153	88	57.5%	*****	*****	*****	*****	0	0.0%	0	0.0%
RespiClick	History of COPD	228	116	50.9%	*****	*****	*****	*****	0	0.0%	0	0.0%

¹Enrollment time reflects how long a patient was continuously enrolled in the database after incident use. It does not reflect time on treatment.

*****Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

Table 5. Descriptive Statistics of Enrollment Time following Incident Inhaled Corticosteroid (ICS)/Long-Acting Beta Agonist (LABA) Use among Patients with a History of Asthma or Chronic Obstructive Pulmonary Disease (COPD) in the Sentinel Distributed Database (SDD) between May 10, 2013 and September 30, 2019

Exposure	Cohort Criteria	Total Number of New Users	Distribution of Length of Enrollment Time ¹ Following Incident Use, in Days						
			Minimum	Q1	Median	Q3	Maximum	Mean	Standard Deviation
Advair Diskus	History of Asthma	314,483	1	292	584	963	2,335	677	488
	History of COPD	643,112	1	364	826	1,440	2,335	919	632
Advair HFA	History of Asthma	67,391	1	224	505	923	2,335	624	489
	History of COPD	92,181	1	293	710	1,319	2,328	833	618
Breo Ellipta	History of Asthma	185,604	1	209	461	781	2,037	516	360
	History of COPD	369,649	1	246	544	903	2,129	628	458
Symbicort	History of Asthma	304,892	1	224	515	931	2,335	628	492
	History of COPD	751,633	1	309	755	1,363	2,335	860	620
Dulera	History of Asthma	110,720	1	403	824	1,201	2,335	848	538
	History of COPD	134,330	1	472	1,061	1,602	2,335	1,054	644
Airduo RespiClick	History of Asthma	153	10	124	241	518	760	315	216
	History of COPD	228	1	133	342	554	840	349	221

¹Enrollment time reflects how long a patient was continuously enrolled in the database after incident use. It does not reflect time on treatment.

Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (April 3, 2020)

DP ID	Start Date¹	End Date¹
DP01	01/01/2000	02/28/2019
DP02	01/01/2000	01/31/2019
DP03	01/01/2004	08/31/2019
DP04	01/01/2008	09/30/2019
DP05	01/01/2006	06/30/2019
DP06	01/01/2000	12/31/2017
DP07	01/01/2010	06/30/2019
DP08	01/01/2000	07/31/2019
DP09	06/01/2007	07/31/2019
DP10	01/01/2000	04/30/2018
DP11	01/01/2005	07/31/2018
DP12	01/01/2000	04/30/2019
DP13	01/01/2000	03/31/2019
DP14	01/01/2008	03/31/2019
DP15	01/01/2000	06/30/2019
DP16	01/01/2012	06/30/2018

¹The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum date must have at least 80% of the number of records in the previous month.

Appendix B. List of Generic and Brand Names of Medical Products Used to Define the Exposures of Interest and Exclusion Criteria in this Request

Generic Name	Brand Name
fluticasone propionate/salmeterol xinafoate	Advair Diskus
budesonide/formoterol fumarate	Symbicort
mometasone furoate/formoterol fumarate	Dulera
fluticasone propionate/salmeterol xinafoate	Advair HFA
fluticasone furoate/vilanterol trifenate	Breo Ellipta
fluticasone propionate/salmeterol xinafoate	Airduo RespiClick

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
Asthma			
493	Extrinsic asthma, unspecified	Diagnosis	ICD-9-CM
493.1	Intrinsic asthma, unspecified	Diagnosis	ICD-9-CM
493.02	Extrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.12	Intrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.01	Extrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.11	Intrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.92	Asthma, unspecified, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.91	Asthma, unspecified with status asthmaticus	Diagnosis	ICD-9-CM
493.9	Asthma, unspecified, unspecified status	Diagnosis	ICD-9-CM
493.82	Cough variant asthma	Diagnosis	ICD-9-CM
493.2	Chronic obstructive asthma, unspecified	Diagnosis	ICD-9-CM
493.21	Chronic obstructive asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.22	Chronic obstructive asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
J45	Asthma	Diagnosis	ICD-10-CM
J45.2	Mild intermittent asthma	Diagnosis	ICD-10-CM
J45.20	Mild intermittent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.21	Mild intermittent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.22	Mild intermittent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.3	Mild persistent asthma	Diagnosis	ICD-10-CM
J45.30	Mild persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.31	Mild persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.32	Mild persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.4	Moderate persistent asthma	Diagnosis	ICD-10-CM
J45.40	Moderate persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.41	Moderate persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.42	Moderate persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.5	Severe persistent asthma	Diagnosis	ICD-10-CM
J45.50	Severe persistent asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.51	Severe persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.52	Severe persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.9	Other and unspecified asthma	Diagnosis	ICD-10-CM
J45.90	Unspecified asthma	Diagnosis	ICD-10-CM
J45.901	Unspecified asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.902	Unspecified asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.909	Unspecified asthma, uncomplicated	Diagnosis	ICD-10-CM
J45.99	Other asthma	Diagnosis	ICD-10-CM
J45.991	Cough variant asthma	Diagnosis	ICD-10-CM
J45.998	Other asthma	Diagnosis	ICD-10-CM
493.91	Asthma, unspecified with status asthmaticus	Diagnosis	ICD-9-CM
493.92	Asthma, unspecified, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.01	Extrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.02	Extrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.11	Intrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.12	Intrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
J45.21	Mild intermittent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.22	Mild intermittent asthma with status asthmaticus	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Inclusion and Exclusion Criteria in this Request

Code	Description	Code Category	Code Type
J45.31	Mild persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.32	Mild persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.41	Moderate persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.42	Moderate persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.51	Severe persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.52	Severe persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.901	Unspecified asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.902	Unspecified asthma with status asthmaticus	Diagnosis	ICD-10-CM
Chronic Obstructive Pulmonary Disease (COPD)			
490	Bronchitis, not specified as acute or chronic	Diagnosis	ICD-9-CM
491	Simple chronic bronchitis	Diagnosis	ICD-9-CM
491.1	Mucopurulent chronic bronchitis	Diagnosis	ICD-9-CM
491.2	Obstructive chronic bronchitis, without exacerbation	Diagnosis	ICD-9-CM
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	Diagnosis	ICD-9-CM
491.22	Obstructive chronic bronchitis with acute bronchitis	Diagnosis	ICD-9-CM
491.8	Other chronic bronchitis	Diagnosis	ICD-9-CM
491.9	Unspecified chronic bronchitis	Diagnosis	ICD-9-CM
492	Emphysematous bleb	Diagnosis	ICD-9-CM
492.8	Other emphysema	Diagnosis	ICD-9-CM
496	Chronic airway obstruction, not elsewhere classified	Diagnosis	ICD-9-CM
J40	Bronchitis, not specified as acute or chronic	Diagnosis	ICD-10-CM
J41	Simple and mucopurulent chronic bronchitis	Diagnosis	ICD-10-CM
J41.0	Simple chronic bronchitis	Diagnosis	ICD-10-CM
J41.1	Mucopurulent chronic bronchitis	Diagnosis	ICD-10-CM
J41.8	Mixed simple and mucopurulent chronic bronchitis	Diagnosis	ICD-10-CM
J42	Unspecified chronic bronchitis	Diagnosis	ICD-10-CM
J43	Emphysema	Diagnosis	ICD-10-CM
J43.1	Panlobular emphysema	Diagnosis	ICD-10-CM
J43.2	Centrilobular emphysema	Diagnosis	ICD-10-CM
J43.8	Other emphysema	Diagnosis	ICD-10-CM
J43.9	Emphysema, unspecified	Diagnosis	ICD-10-CM
J44	Other chronic obstructive pulmonary disease	Diagnosis	ICD-10-CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	Diagnosis	ICD-10-CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	Diagnosis	ICD-10-CM
J44.9	Chronic obstructive pulmonary disease, unspecified	Diagnosis	ICD-10-CM
491.22	Obstructive chronic bronchitis with acute bronchitis	Diagnosis	ICD-9-CM
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	Diagnosis	ICD-9-CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	Diagnosis	ICD-10-CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
Respiratory Failure			
518.84	Acute and chronic respiratory failure	Diagnosis	ICD-9-CM
518.81	Acute respiratory failure	Diagnosis	ICD-9-CM
518.83	Chronic respiratory failure	Diagnosis	ICD-9-CM
J96.00	Acute respiratory failure, unspecified whether with hypoxia or hypercapnia	Diagnosis	ICD-10-CM
J96.01	Acute respiratory failure with hypoxia	Diagnosis	ICD-10-CM
J96.02	Acute respiratory failure with hypercapnia	Diagnosis	ICD-10-CM
J96.10	Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia	Diagnosis	ICD-10-CM
J96.11	Chronic respiratory failure with hypoxia	Diagnosis	ICD-10-CM
J96.12	Chronic respiratory failure with hypercapnia	Diagnosis	ICD-10-CM
J96.20	Acute and chronic respiratory failure, unspecified whether with hypoxia or hypercapnia	Diagnosis	ICD-10-CM
J96.21	Acute and chronic respiratory failure with hypoxia	Diagnosis	ICD-10-CM
J96.22	Acute and chronic respiratory failure with hypercapnia	Diagnosis	ICD-10-CM
J96.90	Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia	Diagnosis	ICD-10-CM
J96.91	Respiratory failure, unspecified with hypoxia	Diagnosis	ICD-10-CM
J96.92	Respiratory failure, unspecified with hypercapnia	Diagnosis	ICD-10-CM
Acute Bronchospasm			
519.11	Acute bronchospasm	Diagnosis	ICD-9-CM
J98.01	Acute bronchospasm	Diagnosis	ICD-10-CM
Asthma Exacerbation			
493.91	Asthma, unspecified with status asthmaticus	Diagnosis	ICD-9-CM
493.92	Asthma, unspecified, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.01	Extrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.02	Extrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
493.11	Intrinsic asthma with status asthmaticus	Diagnosis	ICD-9-CM
493.12	Intrinsic asthma, with (acute) exacerbation	Diagnosis	ICD-9-CM
J45.21	Mild intermittent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.22	Mild intermittent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.31	Mild persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.32	Mild persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.41	Moderate persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.42	Moderate persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.51	Severe persistent asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.52	Severe persistent asthma with status asthmaticus	Diagnosis	ICD-10-CM
J45.901	Unspecified asthma with (acute) exacerbation	Diagnosis	ICD-10-CM
J45.902	Unspecified asthma with status asthmaticus	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
COPD Exacerbation			
COPD Exacerbation - Overall			
491.22	Obstructive chronic bronchitis with acute bronchitis	Diagnosis	ICD-9-CM
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	Diagnosis	ICD-9-CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	Diagnosis	ICD-10-CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	Diagnosis	ICD-10-CM
COPD Exacerbation - (J44.0 or 491.22)			
491.22	Obstructive chronic bronchitis with acute bronchitis	Diagnosis	ICD-9-CM
J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection	Diagnosis	ICD-10-CM
COPD Exacerbation - (J44.1 or 491.21)			
491.21	Obstructive chronic bronchitis, with (acute) exacerbation	Diagnosis	ICD-9-CM
J44.1	Chronic obstructive pulmonary disease with (acute) exacerbation	Diagnosis	ICD-10-CM

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
Short-Acting Beta Agonists	
albuterol sulfate	Proventil HFA
albuterol sulfate	albuterol sulfate
levalbuterol HCl	levalbuterol HCl
albuterol sulfate	Ventolin HFA
levalbuterol tartrate	levalbuterol tartrate
levalbuterol HCl	Xopenex Concentrate
levalbuterol HCl	Xopenex
albuterol sulfate	ProAir HFA
albuterol sulfate	AccuNeb
levalbuterol tartrate	Xopenex HFA
albuterol sulfate	ProAir RespiClick
albuterol sulfate	Vospire ER
Long-Acting Beta Agonists	
indacaterol maleate	Arcapta Neohaler
formoterol fumarate	Foradil Aerolizer
olodaterol HCl	Striverdi Respimat
formoterol fumarate	Perforomist
arformoterol tartrate	Brovana
Short-Acting Antimuscarinic Agents	
ipratropium bromide	ipratropium bromide
ipratropium bromide	Atrovent HFA
ipratropium bromide	Atrovent
Long-Acting Antimuscarinic Agents	
glycopyrrolate	Seebri Neohaler
umeclidinium bromide	Incruse Ellipta
acclidinium bromide	Tudorza Pressair
tiotropium bromide	Spiriva with HandiHaler
tiotropium bromide	Spiriva Respimat
glycopyrrolate/nebulizer and accessories	Lonhala Magnair Starter
glycopyrrolate/nebulizer accessories	Lonhala Magnair Refill
glycopyrrolate	glycopyrrolate
glycopyrrolate	Robinul
glycopyrrolate/PF	Glyrx-PF
glycopyrrolate in sterile water/PF	glycopyrrolate (PF) in water
glycopyrrolate in sterile water	glycopyrrolate in water
glycopyrrolate	Cuvposa
glycopyrrolate	Glycate
glycopyrrolate	Robinul Forte
Leukotriene Modifiers	
montelukast sodium	Singulair
montelukast sodium	montelukast
zafirlukast	Accolate
zafirlukast	zafirlukast
zileuton	Zyflo
zileuton	Zyflo CR
zileuton	zileuton

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
Immunomodulators	
reslizumab	Cinqair
mepolizumab	Nucala
omalizumab	Xolair
Mast Cell Stabilizers	
cromolyn sodium	cromolyn
cromolyn sodium	Nasal Allergy Symptom Control
cromolyn sodium	Nasal crom
cromolyn sodium	Gastrocrom

Appendix F. Specifications Defining Parameters Used in this Request

This report executed the Cohort Identification and Descriptive Analysis (CIDA) module, version 9.3.0 to estimate rates of incident inhaled corticosteroid (ICS)/long-acting beta agonist (LABA) inhaler users in the Sentinel Distributed Database (SDD).

Query period: May 10, 2013 - September 30, 2019
Coverage requirement: Medical and Drug Coverage
Pre-index enrollment requirement: 365 days
Post-index enrollment requirement: 0 days
Enrollment gap: 45 days
Age groups: 4-11, 12-18, 19-39, 40-64, 65+ years
Stratifications: Year-month
Censor output categorization: <1, 1-<2, 2-<3, 3-<4, 4+ years

Exposure/Event								Inclusion/Exclusion Criteria						
Scenario	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion includes dispensings	Number of instances the criteria should be found in evaluation period
1	Advair Diskus	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Advair Diskus	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
2	Advair HFA	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Advair HFA	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

Appendix F. Specifications Defining Parameters Used in this Request

Scenario	Exposure/Event							Inclusion/Exclusion Criteria						
	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion includes dispensings	Number of instances the criteria should be found in evaluation period
3	Breo Ellipta	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Breo Ellipta	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
4	Symbicort	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Symbicort	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

Appendix F. Specifications Defining Parameters Used in this Request

Scenario	Exposure/Event							Inclusion/Exclusion Criteria						
	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings	Number of instances the criteria should be found in evaluation period
5	Dulera	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Dulera	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
6	Airduo Respiclick	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	Asthma	Inclusion	Any care setting	-365	0	N/A	1
								COPD	Exclusion	Any care setting	-365	0	N/A	1
								Airduo Respiclick	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

Appendix F. Specifications Defining Parameters Used in this Request

Scenario	Exposure/Event							Inclusion/Exclusion Criteria						
	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion includes dispensings	Number of instances the criteria should be found in evaluation period
7	Advair Diskus	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Advair Diskus	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
8	Advair HFA	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Advair HFA	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

Appendix F. Specifications Defining Parameters Used in this Request

Scenario	Exposure/Event							Inclusion/Exclusion Criteria						
	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings	Number of instances the criteria should be found in evaluation period
9	Breo Ellipta	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Breo Ellipta	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
10	Symbicort	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Symbicort	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

Appendix F. Specifications Defining Parameters Used in this Request

Scenario	Exposure/Event							Inclusion/Exclusion Criteria						
	Index Exposure/Event	Cohort definition	Washout period	Incident with respect to:	Exclude evidence of days supply if exposure washout includes dispensings	Forced supply to attach to dispensings	Censor enrollment at evidence of	Inclusion/Exclusion	Criteria	Care setting	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if inclusion/exclusion evaluation period includes dispensings	Number of instances the criteria should be found in evaluation period
11	Dulera	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Dulera	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1
12	Airduo Respiclick	First valid index date during query period	N/A	N/A (see exclusion criteria)	N/A	N/A	Death; Data Partner End Date; Query End Date	COPD	Inclusion	Any care setting	-365	0	N/A	1
								Asthma	Exclusion	Any care setting	-365	0	N/A	1
								Airduo Respiclick	Exclusion	Any care setting	-365	-1	Evaluation period should search for only evidence of a dispensing date	1

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology, Fourth Edition (CPT-4) codes are provided by Optum360.

National Drug Codes (NDCs) are checked against First Data Bank's "FDB MedKnowledge®."

Appendix G. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics

Covariate Label	Condition	Care setting	Principal diagnosis position	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if covariate includes dispensings	Number of instances the covariate should be found in evaluation period	Forced supply to attach to dispensings
Respiratory Failure	Respiratory Failure	Any care setting	Any	-365	0	N/A	1	N/A
Acute Bronchospasm	Acute bronchospasm	Any care setting	Any	-365	0	N/A	1	N/A
Asthma Exacerbation	Asthma Exacerbation	Any care setting	Any	-365	0	N/A	1	N/A
	Asthma Exacerbation	Inpatient hospital stay	Any	-365	0	N/A	1	N/A
	Asthma Exacerbation	Emergency department encounter	Any	-365	0	N/A	1	N/A
	Asthma Exacerbation	Ambulatory visit; Other ambulatory visit	Any	-365	0	N/A	1	N/A
COPD Exacerbation	COPD exacerbation	Any care setting	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.0 and 491.22)	Any care setting	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.1 and 491.21)	Any care setting	Any	-365	0	N/A	1	N/A
	COPD exacerbation	Inpatient hospital stay	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.0 and 491.22)	Inpatient hospital stay	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.1 and 491.21)	Inpatient hospital stay	Any	-365	0	N/A	1	N/A
	COPD exacerbation	Emergency department encounter	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.0 and 491.22)	Emergency department encounter	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.1 and 491.21)	Emergency department encounter	Any	-365	0	N/A	1	N/A
	COPD exacerbation	Ambulatory visit; Other ambulatory visit	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.0 and 491.22)	Ambulatory visit; Other ambulatory visit	Any	-365	0	N/A	1	N/A
	COPD exacerbation (J44.1 and 491.21)	Ambulatory visit; Other ambulatory visit	Any	-365	0	N/A	1	N/A

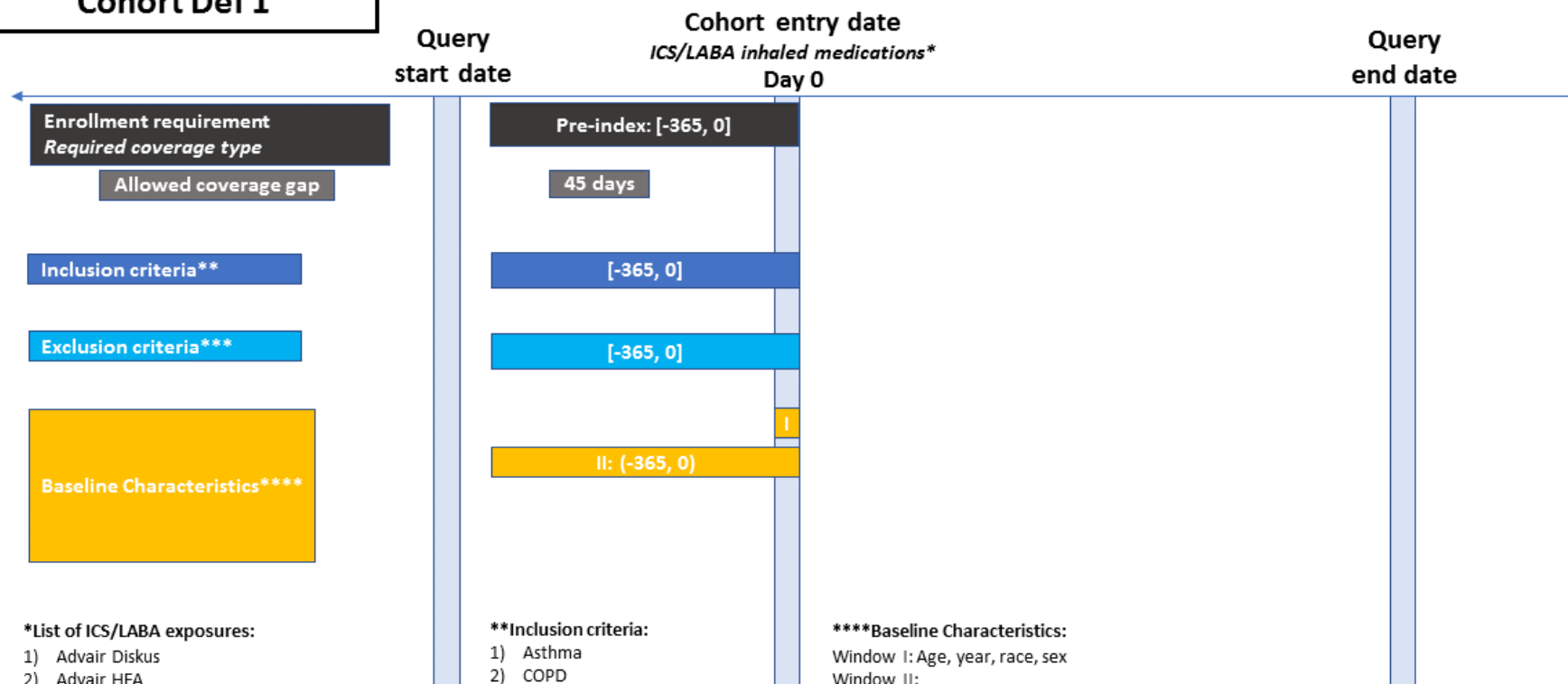
Appendix G. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics

Covariate Label	Condition	Care setting	Principal diagnosis position	Evaluation period start (days)	Evaluation period end (days)	Exclude evidence of days supply if covariate includes dispensings	Number of instances the covariate should be found in evaluation period	Forced supply to attach to dispensings
Short-Acting Beta Agonists	Short-Acting Beta Agonists	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Long-Acting Beta Agonists	Long-Acting Beta Agonists	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Short-Acting Antimuscarinic Agents	Short-Acting Antimuscarinic Agents	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Long-Acting Antimuscarinic Agents	Long-Acting Antimuscarinic Agents	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Leukotriene Modifiers	Leukotriene Modifiers	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Immunomodulators	Immunomodulators	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A
Mast Cell Stabilizers	Mast Cell Stabilizers	N/A	N/A	-365	0	Evaluation period should search for only evidence of a dispensing date	1	N/A

Appendix H. Design Diagram of Cohort Entry Requirements and Index Exposure

**Type 1 design diagram:
Cohort Def 1**



***List of ICS/LABA exposures:**

- 1) Advair Diskus
- 2) Advair HFA
- 3) Breo Ellipta
- 4) Sympicort
- 5) Dulera
- 6) Airduo RespiClick

****Inclusion criteria:**

- 1) Asthma
- 2) COPD

*****Exclusion criteria:**

- 1) COPD
- 2) Asthma
- 3) Index-defining exposure of interest

******Baseline Characteristics:**

Window I: Age, year, race, sex

Window II:

- Pre-existing conditions (respiratory failure, acute bronchospasm)
- Asthma exacerbations (in any, IP, ED, and outpatient (AV and OA) care settings), COPD exacerbations (in any, IP, ED, and outpatient (AV and OA) care settings)
- History of medication use (short- and long-acting beta agonists, short- and long-acting antimuscarinic agents, leukotriene modifiers, immunomodulators, mast cell stabilizers)
- Charlson/Elixhauser combined comorbidity score
- Medical and drug utilization history